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MARCH WINDS

AND

APRIL SHOWERS.

MARCH WINDS

AND

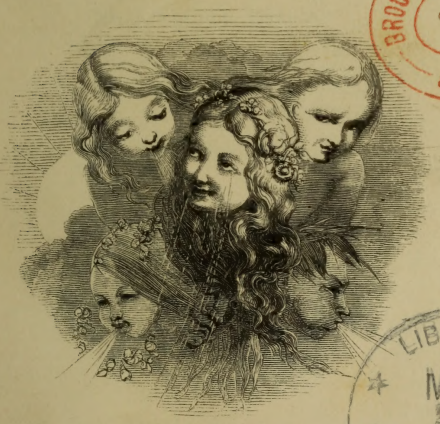
APRIL SHOWERS:

BEING

NOTES AND NOTIONS ON A FEW CREATED THINGS.

By "ACHETA,"

AUTHOR OF "EPISODES OF INSECT LIFE."



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NATHANIEL OGLE, ESQ.

THIS LITTLE VOLUME

Is Inscribed,

WITH SINCERE RESPECT AND ESTEEM,

BY ITS AUTHOR.

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PREFACE.

Of those by whom this volume may be taken up, some may feel disposed to lay it down in disfavour of its name. What will they say to it? Something perhaps like this—"*March Winds and April Showers?*" How absurd a title for a book! or how presumptuous! What possibly, or *im*possibly, can be its meaning? These are days of daring second hardly to the days of Babel. Lightning is made to wait upon our will—philosophers have schemed to bring down rain at pleasure. But the Winds—the viewless, the unshackled Winds! Can we be holding a sample of them here? Has a convenient complement been stolen from the treasures of creation, to be bound, not as of old, in bags Æolian, but in boards and lettered cloth? When we open, will a liberated breeze play gambols in our hair, or a blast meet us in the teeth? It would not seem so. We must apply then, we suppose, some figurative meaning to the Winds that are lurking in these leaves of print. Perhaps their author would have us to

infer that influences are breathed from out them gentle as Spring zephyrs—powerful as equinoctial gales. A modest intimation, truly!

Then what are we to make of "*Showers?*" Are we handling a pocket-volume of imprisoned rain, to distil in drops, perhaps, from the corner of each page? Only pleasant this, and hardly, on a thirsty day of Summer. Or (more inviting) are we to look upon a set of illuminated margins, aqua-tinted in colours drawn down from rainbows, and made fast on paper? Who knows what photographic processes have here produced? But no; we look in vain for such prismatic painting. These leaves owe no adornment to the pencils of the sun moistened in the palette of an April sky. So, then, the "Showers" of this volume are no more meteoric than its "Winds." They are metaphoric all. A notion, doubtless, is meant to be conveyed that these pages are not dry; that they are replete, on the contrary, with moisture genial and refreshing as that imparted to the earth by Summer Showers. Perhaps, too, it is hinted in the compass of a word, that we shall find them lighted up by gleams of humour and plays of fancy resembling the sunshine of an April day. "Pretty well this for promise and pretension!"

Book of ours—it is in this way, like enough, that thy title may be questioned. It may be thought to mean nothing, or to intimate too much. Yet it is in no spirit of presumption that we have given thee thy name. It has been chosen as adapted to thy subjects and expressive of thy design, with a consciousness, the while, that it is far above thy handling and performance.

First, for thy subjects. These have been drawn chiefly from the magazine of Nature. Amongst them, Leaf and Flower (products of Spring), Bird and Insect (animals of air), have places of pre-eminence. *Out* of place they are not with March Winds and April Showers, coming *with* them, and in some sort *of* them.

Secondly, for thy design. Herein, truly, we would have thee in thy narrow field of moral influence imitate the Winds and Showers in their world-wide sphere. The minds and hearts of thy readers are thy trees—to stir—thy soil—to penetrate. Through the powerful media supplied by Nature we would have thee do thy weak endeavour to rouse and purify as the invigorating Winds; refresh and soften as the genial Showers. If in this thou art successful, in however small a measure, thou wilt have earned

some title to thy name—*some title*, but not a right complete. For that, thou must perform thy part in a higher mission, an ultimate vocation, which is told by every breeze, made manifest in every shower. When winds are stirring in the trees, trees and winds mingle their voices in praise of Him who made them. When showers wet the earth, and sunshine comes to dry them, earth sends up her incense and displays her brilliants in honour of the Season's God.

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"For Nature here
Wanton'd as in her prime, and play'd at will
Her virgin fancies, wild above rule or art."

MILTON.

I.

RAMBLES IN THE GARDENS OF AMPHITRITE.

PART I.—A FABLE OF THE SEA.

"Huge ocean shows within his yellow strand
A habitation marvellously planned
For life to occupy." SOUTHEY.

THERE once lived a certain Nereid, who was one of the sweetest creatures in the whole world of waters.

She was fair as a rosy-tinted pearl, graceful as a waving fucus, sportive as a dolphin, tender-hearted as a seal, sensitive as a sea-pen, that beautiful zoophyte which shrinks into the sand on the slightest touch of rudeness. She was one of Amphitrite's favourite attendants, and might be seen occasionally in that bevy of beauty which was used to float round the shelly car

of the ocean queen. She, however, cared but little to glitter in the brilliant galaxy which, on these occasions, would illuminate, as with a "girdle of Venus,"* the surface of the sea. She loved far better to wander in its quiet depths—to bound with light foot and lighter heart over its plains of sand—to climb its smooth or rugged mountains—to thread the mazes of its waving forests, or meditate within its coral caves; but, above all, did she delight herself in the gardens of living flowers which enamel the beds of ocean. Never was poet, florist, or honey-bee more devoted to the "buds and bells" of earth than our beautiful Nereid to the buds and bells of the sea. Buds and bells? they were these to her, and more. They were stars—stars of every magnitude and every hue—single, or arranged in brilliant constellations of a thousand varied and graceful forms. Some were fixed on rocky bases, some wandered in erratic motion, others were set as studs on stem and branch and foliate expansion, and all, as in scintillating motion, were for ever shooting forth or withdrawing their many-coloured rays. These were enough to make a firmament within the waters, and as the changeful light shot through and the sounding sea broke over

* *Berse*—one of the phosphorescent Medusæ.

them, these stars of the deep would seem to our gentle sea-nymph to smile and sing for joy. Then she together with them, and if for lack of knowledge her morning and her evening hymns were raised to Neptune, it was to Neptune as Creator that she sung.

The marine parterres wherein the Nereid thus delighted were scattered far and wide; but the chief of her gardens were situate in tropic oceans where, as with the flowers of tropic lands, her floral favourites were of the gayest and the richest. Let them grow where they might, these star-like flowers required little, if any, culture, and displayed in their economy a high degree of independence. Some of them not only planted, but would transplant themselves, removing from one situation to another. It had happened, also, that when the admiring sea-nymph would have plucked a flower, the blossom, perhaps, of a rich anemone or elegant campanularia, to promote it to a place in her bosom or her hair, it had shrunk ungratefully from her touch, showing plainly that it liked not to be handled; and so the Nereid, who always herself shrunk from giving pain, or even its semblance, to anything in all the sea, had long forborne an attempt even to detach her flowers from their beds or stalks. She had been content thence-

forward to bedeck her flowing tresses with less sensitive productions, shore-frequenting flowers of the land, or, more often, the flowerless but many-coloured and graceful, and often scented growths that men call sea-weeds.

We may be sure, nevertheless, that certain cares of tenderness were bestowed on her favourite productions by their gentle mistress, who could hardly otherwise have loved them quite so well.

Her delicate operations in marine horticulture must remain hidden mysteries of the deep; but there is little doubt of her having somehow lent support against angry waves and sweeping currents to such of her sea-flowers as were weak and fragile. Their habitudes were infinitely varied. It was the delight of some to face the sunny south, the mood of others to confront the gloomy north. Some sought the shelter of submerged grottos, others seemed to glory in exposure to the driving surges, their pliant branches following the movement of the waters; some took up their stations in the deep, deep sea; while others lingered near the shore as if wishing to desert their native element. And then that element, as if in revenge, would sometimes abandon them, leaving them exposed upon their rocky bases—at

first full-blown and vigorous, as if laughing at the waves in their retreat, then shrinking for lack of moisture and shrivelling sometimes even unto death. This to the tender Nereid was a grief, the only trouble that had mingled hitherto with the pleasures of her cherished flower-gardens; and sometimes, when the yellow sands were lying bright and dry under a summer moon, her graceful form would be seen amidst the rocks, bending over them in tenderness and sorrow. Well might she sorrow to behold her darling flowers withered and dying under the cold gaze of that pitiless Diana (cause of all they suffered), and she only able to water them from a deserted scallop-shell or from the fountains of her eyes. This was the first, but it was not the only distress that our Nereid was destined to endure on account of her submarine parterres. The second and much the sorest arose out of the following cause.

There was a certain hoary Triton with whom the sea-nymph, beloved by all, was an especial favourite. This old Triton was something of a philosopher, thence, almost of necessity, something of a naturalist. He had always had a taste for study, study of the beautiful and wonderful in the ocean-world about him. He had also picked up a few submerged

treasures of terrestrial knowledge, as these, with the volumes that contained them, had been deposited by shipwreck on the sandy shelves of the deep. From this marine library he had learnt more than even from observation of the history and habits of sea-flowers—the flowers that "painted with delight" the gardens and existence of the beautiful Nereid. To her, his attentive and inquiring pupil, he was always proud to impart of his pearls of knowledge, and in a luckless hour he told her more about the economy of her flowers than it seemed good for her to know. He told her that they were not in reality flowers at all, but animals—creatures that lived by the death of others as much as the voracious shark and war-like sword-fish. She learnt (appalling fact!) that the graceful bells of her favourite campanulariæ were but so many stomachs for digestion of living prey—their seeming stamens but so many arms employed chiefly for its seizure; that, with the flower-cups of her darling May-blossom, with her blossoms all, whether seated stemless on the rock, borne on branching growth, or set on leaf-like expansion, it was much the same. They bloomed only to devour, and flourished only by destruction. Or if she looked at them as stars, all—the largest and the least, the

single and the congregate—shot forth their lustre with no milder purpose. Their discs were nothing but voracious mouths, their rays the grasping arms that waited on their appetite. And what even her filmy, floating, fairy-like Medusæ,* those sportive lovers of calm and sunshine, sea-rainbows by day, sea-lightning by night, what even these but a multitude of very Gorgons, with shield-like orbs and snake-like filaments to coil about their victims?

Poor little Nereid! She would have given the largest pearl that ever gemmed her tresses to have unlearned her little knowledge about the products of her loved parterres. But how was it that, with all her notice of them, she had not made earlier acquaintance with those unseemly habitudes that marred their beauty? How, for example, could she have gazed so often and so long at her favourite anemones, and never have detected one amongst them in the act of engulphing a shell-fish, or a tiny crab, as a boa-constrictor might engulf a fawn?

Some such phenomenon it is likely she had seen, but having no natural eye for anything but the graceful and beautiful—no natural apprehension for anything but the tender and the good, she thought (there's not a

* Known as sea-nettles, jelly-fish, &c. (Acalephæ.)

doubt of it) that the great sea-flower could only be folding the little fish in a loving embrace, and that the little fish could only be nestling in the heart of the great sea-flower, as a bee nestles in the heart of a land anemone or a rose. Well, through whatever medium (a sunny one it is certain) the Nereid had looked hitherto on all belonging to her beds of bloom, the bright investiture was rent asunder. A cloud had come over her starry firmament and darkened all her pleasant places. Her gardens had lost their gaiety—her coral groves their grace—her coral caves their peaceful quietude, for all alike were beset, in their animal flowers, with devouring mouths; all therefore were instinct with murder.

The good old Triton was quite unconscious of the mischief he had wrought. What to his sensitive young pupil was a discovery full of wonder and dismay, was to him a marvel replete only with admiration. The world of water is pre-eminently a preying world. The Triton himself might not have been altogether a vegetarian, and it is impossible to assert that nothing of a character less vegetable than an edible sea-weed ever passed the lips of the gentle Nereid. Be this as it might, she had always shrunk from the preying monsters of the deep (preyers unmistak-

able) to turn with fondness to the few amongst its finny tribes of gentler habitudes, above all to her flowers of the sea—copies, as she thought them in all but perfume, of the flowers of the land. What of these latter should the sea-nymph know? Much, through her lingerings by the enamelled shores that she haunted chiefly for their sake, and much through her lavings in the perfumed waves which had borrowed of their sweetness.

The Nereid was in no haste to say a word of her distress to him who had so innocently caused it, but somehow or another the Triton was not long in finding out that his favourite had ceased to take pleasure in her gardens of delight. He afterwards discovered why. Then, to do him justice, the sage of the sea did his best to heal the wound he had unwittingly inflicted. He mustered all his philosophy to prove that it was *very good* for the living things of the deep, even to its flowers, to live on one another. "Look you," said he, as he one day sat, the Nereid beside him, on a rock beneath the waves velvetted by moss-like sea-weeds. "Look you at the creatures round about us; see the fishes (birds of our watery firmament)—some showing darkly as they cleave the liquid azure—some flashing like jewelled arrows as

they dart through the cloudy depths—others illumining with their scaly lustre the thickets of waving algæ and branching corals, through which they penetrate. See some of them with forms of elegance and fair proportion—gentle of aspect—smooth of skin;—some hideous and huge-headed, grim and grotesque—bristling with spines and seemingly with terror. A few, even of the fiercest-seeming, arrest their course to feed upon the feathery or flag-like weeds about them; but how many more, and those of the least ferocious aspect, are in pursuit of others smaller and weaker than themselves. See how the latter are momently disappearing, engulphed by their devouring jaws!"

The tender-hearted Nereid cared not to look attentively on that to which even use had failed to reconcile her, and raised her "Venus's Fan"* to shield her eyes from the unwelcome spectacle; but the large hand of the old Triton put it gently aside.

"Nay, my sweet pupil," he continued, "look round again. Amidst the endless variety about us, take note of one thing most worthy noting. Of all these creatures consuming, or to be consumed, there is not one but what we see in fullest enjoyment of life and

* Gorgonia flabellum.

vigour. Look as we may, no form of disease or death or disfiguring decay meets and offends our sight; and why,—but because by that wise and kind provision whose workings so distress thee, disease and visible death are for ever being swallowed up of life. What if these bulkier animals had no destroyers yet more bulky to consign them at once to death and burial? Why, this pleasant world of ours (in spite of every other agency that tends to make it pure) would be turned into a world of poison. And what if the myriads of lesser creatures, even the countless monads (the motes in our watery beams), were to have no consumers, they would, dying, corrupt the waves around us. Such useful consumers are the animal flowers of your gardens—such the flowers that bestud the expansion of your fan."

The Nereid at these words nearly let drop the screen of coralline that had been lowered from her face, but by an effort she retained it in her grasp, waved it quickly as if to scatter all disturbing prejudices amidst the wide waters, then steadied it on her knee, and looked up over it at her old instructor.

"Then quarrel not," he resumed, "for this, with your long-loved favourites. As innocent of all ill-doing, with as little lust of ferocity as these waving

sea-weeds draw nutriment from the rock and refreshment from the water, do they absorb into themselves the forms of being destined to support them, existences that pass from life with perhaps as little pain as is felt by the lifeless elements on their absorption into the tissue of a vegetable leaf. Loathe them, I say, no longer, my sweet pupil, but love as hitherto your flowers of the sea. Like the preying monsters of the deep they do but nature's bidding, and nature does the bidding of her God (a greater than Neptune), who orders all things well."

The wisdom of the marine philosopher might have sounded but as folly in the ears of the scientific of the earth; the end of his lecture would have sounded as heresy in the ears of his brother Tritons of the sea; but it was rewarded by a radiant smile from the eyes above the "Venus's Fan." The gloom had passed like a summer cloud from the features of the beautiful Nereid, and the flowers of her parterres—the stars of her lower heaven—were shining out on her as bright as ever.

RAMBLES IN THE GARDENS OF AMPHITRITE.

PART II.—FLOWERS OF THE SEA.

"Animate flowers of the briny deep
That raise in life their during monuments."
MONTGOMERY.

AMONGST the admirers and gatherers of ocean flowers, a few, perhaps, may have partaken of the Nereid's consternation on first discovering their preying propensities. They may have regarded with excusable distaste, or *in*excusable displeasure, their unfloral habitudes, reflected only in the vegetable kingdom by the dogs'-bane, the dionea, and a few other fly-*catching*, if not, as conjectured, fly-*feeding*, plants.

We can at least answer for ourself, that on detection of their economy, their beauty, or their beauty's charm, did, for a season, almost vanish in our sight, even as the form and colours of a rainbow-tinted Medusa,* when taken out of sunshine and salt-water.

Well do we remember, for it made one of the epochs

* Sea-nettle, jelly-fish. Class Acalephe.

of our childhood, our first meeting with a sea-anemone,* on a little black rock under the great white rocks on the beach at Hastings. Yes—well do we remember all that belonged to that memorable rencontre—our shout of joy at beholding the flower (one of reddish purple) in all its radiate glory—our eager attempt to gather it—our wonder and disappointment when it shrank from our touch into a little cone of jelly—our trembling and half reluctant mode of operation when (prompted by our companion, an older and more experienced gatherer), we detached it with a knife from its broad seat upon the rock—our persuasion that it would never blow again—our delight at seeing it re-expand in all its splendour in a basin of salt water—a blue basin with a yellow rim.

And then the experiments which, in conjunction with our experimenting friend, we proceeded to perform upon that unfortunate (or favoured) specimen of the genus Actinia! The numerical processes, the division, the subtraction, the multiplication, of which it was made the subject! Oh, that wonderful flower of the ocean, and the flowers that we caused to spring from it in the blue basin!

These, and their thousand similitudes in the blue

* Actinia. Class Polypifera ; Order Helianthoida.

sea, how they took for awhile possession of our fancy to the exclusion of the pebbles, and the shells, and the sea-weeds, which had been heretofore our joy by day, our dream by night. But there was no mystery (so to our simple ignorance it seemed) in *them*. A pebble was a pebble, a shell a shell, a weed a weed, and nothing more (oh! the childish notions!) but a sea anemone was a flower, and *not* a flower—an animal, and not *like* an animal. It was one and it was many —it was many and it was one. It was, in short, a mystery, and as long as we beheld it living and expanding upon water only, it was a mystery of beauty. But good-bye to the beauty, though the marvel was redoubled, when we saw, on the rock, a giant anemone engulf a crab, and saw, in the blue basin, the queen of our collection, a perfect grandiflora, swallow a piece of raw beef supplied to it by our experimenting friend. A flower and raw beef? Monstrous association! The beautiful flower-cup a devouring stomach; the elegant petals nothing but entrapping claws!

Our favourites lost their favour. The monster anemones in the blue basin were left to die of want, unpitied; the monster anemones on the black rock might, for us, stick there for ever, while we turned with renewed pleasure to the innocent pebbles, and

shells, and sea-weeds that never caught crabs nor bolted collops of raw beef!

Well, we were young then, and sensitive, perhaps sentimental. What we are now we are not called upon to say. Enough that we admire again the flowers of the sea, though free to confess that we should love them more entirely if their habits were in all respects as beautiful as those of the flowers of the earth.

But cannot we give a thought or a word to these living gems of ocean but what it must relate to their devouring mouths? Hardly; seeing that a *mouth* is the conspicuous, the central, the characteristic, the general —we may call it the only feature in the circular faces of those strange, eyeless, noseless, earless, headless creatures that compose the lowest division of the animated world, the Radiata. Ah! with this descriptive appellation, *Radiata*, the wondrous productions of which it is inclusive appear to us suddenly in another and brighter light. They are no longer animals, nor flowers, but *stars*. The mouth, or flower-cup, changes to a central disc; the arms, or petals, to diverging rays; and we forget, for a moment, that the discs are to devour, the rays to reach, a living prey. This is not to be forgotten long; but even under their

animal, that is to say, their least agreeable aspect, these remarkable forms of being present traits much more pleasing and quite as curious as their devouring organs and propensities. That we may bring these also into notice, let us turn again in our rambling way to a few of these wonderful Radiata—only to a few familiar members of the class *Polypifera*, to which belong sea anemones, corals, madrepores, and allied productions of general recognition, as zoophytes, or animal flowers.

Why, in the first place, are these things called polypifera? They are so classed as being made up of, or owing their origin to, polypes. A sea-anemone is a great single polype, known as such to almost everyone, and corals, &c. are polypiferous products, which, but for the polypes, single or congregate, that live in them, would have never been.

But besides these polypes, big and little, solitary and associate, of the sea, there is a certain little polype of fresh water, which, because its habitat is easy to find, and its structure easy to comprehend, is often adduced as an explanatory type of polypes in general. Let us, therefore, after the lead of leading naturalists, take a preliminary look at this little A of the polype alphabet.

We repair to a pond, a streamlet, or a ditch, and there, on an aquatic weed, discover a little, green, transparent object. In shape it may be like a tube, or more resembling a full sack. Perhaps it is attached to the plant by one end, and as humbly quiescent as if it were no better than the plant itself; or perhaps it is asserting its right to the rank of animal by a sort of looping progression like that of a looping caterpillar. We take the weed and its animated pendant home, and put them, with water, in a tumbler. The animal, not relishing disturbance, has most likely shrunk by this time into a short body, not unlike a little bell-flower, with eight scallops on the edge of its corolla. Left to itself, the bell lengthens again into a tube, while the projections round its mouth extend into slender filaments, which begin waving about in all directions. For what purpose? Not, depend upon it, for idle exercise or amusement. Like the arms of the blind Polyphemus, these arms of the headless hydra are in search of prey. Their use is made sensibly apparent to the luckless water-worms or other minute swimmers, which they lay hold of and convey into the open mouth of the tube, which now becomes again a well-stuffed sack. Of these prey-catching appendages (call them what we will), the length in one species of fresh-water polype is prodi-

gious; as wonderful as the dexterity with which, after the manner of a fly-fisher, they are employed. Whether long or short, these lines can be indrawn at pleasure; and when it is the will of their possessor to walk from leaf to leaf of its aquatic garden, they can be used as legs or grasping arms. By help of these, and that of a sucker at its nether end, the polype is enabled to effect its looping progression.

This polype of the pond is called a hydra, not for its many heads, seeing that like others of its tribe it cannot boast of one, but for its hydra-like power of reproducing and multiplying the body and members it does possess. The hydra's mode of propagation, when left to nature, is by means of little buds or offsets, which, as they drop from the parent trunk, become each a perfect polype, as with some vegetable buds (those of the Begonia radicans) which fall into the earth and become each a perfect plant. In this mode of increase the animal *flower* is most apparent; but it is by a manner of multiplication quite out of nature's common course that the peculiar nature of the hydra (whence its name) is so strangely exemplified.

The facts connected with this power of reproduction were deemed, on first observance, more

marvellous than fable. They were discovered in the year 1745-6. Then were polypes sent by naturalists of all nations to each other as subjects for experiment. Then did the structure of polypes excite as much interest in the world of European science as the venture of Charles Edward in the world of European politics. Well it might! That, so called, great rebellion was a mere nonentity — a thing of quite easy extermination as compared with that inexterminable little being which the fresh-water polype was proved to be. With the cutting off of some scores of Highland heads, and the cutting in pieces of some hundreds of Highland and Lowland bodies, the social hydra (hardly a hydra at all) was extinct; while the water-hydra, carved piecemeal, was found to exist (resuscitate) not merely as one, but as perhaps a score, perhaps a hundred—to the number, in short, of the portions into which it had been divided.

Let us see how this hydra-form marvel has been treated by a Hercules of modern science.

"A minute globular cell is typical," says he, "of the common germ from which all organic fabrics proceed. All animals and plants, therefore, may be regarded as definite aggregations of cells endowed with specific properties in the various types, and sub-

jected to a never varying law of development; and in animals as well as plants there are certain kinds in which their entire organization consists of but a simple cell (the monads), and others in which each individual is but a cluster of such cells arranged in a definite manner. These mere aggregates of cells perform all the functions of animal life; viz., the maintenance of a particular form for a certain period; the elaboration of materials of support from food; locomotion, and the perfection of the species. Hence these animals, like the simple plants, may be divided without losing their vitality, and every part become a perfect individual. To this class belongs the hydra, and the above exposition of its structure renders the production of several animals from the vivisection of one individual perfectly intelligible."*

To return from the little polype of the pond to our great polype of the ocean, the sea-anemone. Let us look comparatively at their resembling and their differing features. Answering to the hydra's elastic tube is the anemone's soft, cylindrical bell or body. In the centre of the latter's upper surface, as at the free end of the former, is the mouth, and round it, corresponding to the fishing lines of the hydra, and

* Mantell. "Wonders of Geology" and "Thoughts on Animalcules."

employed for the same purpose, are a number of tentaculæ (sometimes a hundred) indrawable at pleasure. As the eight-armed pygmy of the pond can stuff into its elastic pouch a tiny aquatic great in proportion to itself, so the hundred-armed Briareus of the sea makes nothing of gorging a mollusk or crustacea of superior magnitude, of which the shell or shield is afterwards rejected. These are some of the accordances; now for some of the differences betwixt the little polype of fresh, and the great polype of salt-water.

In lieu of the dropping buds by which the animal flower of the pond perpetuates its race, the great anemone of the sea is furnished within the circumference of its flower-cup with ovaries containing ova or germs, which as such, or in a more developed form, are seen to issue from its floral centre.

In the matter of locomotion the little looper of the pond is a more active, if not a more efficient machine than the sitter on the rock. The latter is not, though, a perfect fixture. Its feelers, finders, holders, do not wait wholly on the wants of appetite, for when the actinia takes it into—we cannot say its head—but its stomach—to walk below the waves, it can detach itself from its stone seat, sink to the bottom,

turn itself inside out, and lo! the arms converted into legs, serve to carry it whither it would go.

There are other characteristics of an animal description which belong to these flowers of the sea. Sensitive exceedingly, they seem as if provided with specific organs of the senses; eyeless, a strong light is said to incommode them; earless, a noise startles them; tasteless, they dislike and die in fresh water; on a touch they shrink, or ply their tubular arms as squirts supplied by an internal reservoir; under extremes of heat and cold they perish, and escape from the grip of winter by leaving the shore for deeper and, then, warmer waters.

In power of reproduction these large polypes of the deep are only a little, if at all, behind the lesser polypes of the pond; cut them length-wise, cross-wise, any-wise, each part becomes a perfect whole; and if in detaching one of them from its seat ever so small a portion of the old base remains behind, this fragment will grow, and put forth the parts of an entire thing. In some cases they would seem, like the roots of sin, inexterminable by human power.*

We have been looking at the actinia chiefly as an

* See Hughe's "Natural History of Barbadoes," for description of a species which reappeared after boring and completely crushing.

animal; let us view it now more especially as a flower. In one agreeable habitude see how it resembles some of the less questionable subjects of Flora's reign. Like the bright pimpernel and cheerful daisy it opens its arms and heart for reception of fine weather, telling surely the approach of sunshine. Then for aspect, what can be more flower-like than that which sea anemones present, especially in warmer latitudes than ours?

Behold or fancy the rocks on retirement of the tide studded by their flower cups, purple striated with green, with their hundred petals "purple, violet, blue, pink, yellow, and green, like so many flowers in a meadow."* Or imagine a group of the actinia plumosa, each with its five-lobed corolla of purest white, each beset with innumerable petals; or the crimson glory of the actinia Jordaica planted like a show of double carnations on the shores of the Mediterranean.

There are other sea-flowers allied to the sea-anemone which consist each of a large single polype surrounded by a gelatinous substance. These, though, instead of being attached by soft suckers to the foreign basis of a rock, have strong bases of their own which secreted (as bone) from the softer parts, serve them as skeletons or supports.

Of this description are the beautiful lamellated

* Lamouroux.

corals known as sea-pinks,* and sea-mushrooms,† the former found in our own seas, the latter common in tropic oceans and cabinet collections. In the latter few can have failed to notice them under the form of white fungus-shaped bodies covered with vertical plates radiating from the centre to the circumference. Each of these is the isolated cell of a polype, which when living (the floral star of its gelatinous hemisphere) may have rivalled in brilliancy of colour the most vivid of marine anemones or most glowing of terrestrial asters.

But some of these round massive lamellated corals are the product and abode not of one large, but of an associate company of lesser polypes. Of this sort are the astrea and pavonia, which on stony bases, sculptured with many lamelliform cells, present, when living, splendid constellations of stellular and florate forms of varied colours.

Amongst these hemispheric productions of associate polypes is the brainstone,‡ a round white coral of which a large and choice specimen has arrested many an eye and footstep in that maze of scientific order, the British Museum. A maze of *natural* order (most orderly) is exhibited on the surface of the coral itself. From the innumerable stellate fissures disposed

* Caryophyllia. † Fungia. ‡ Meandria.

in rows betwixt its meandering ridges proceeded once an assemblage of short-armed polypes. These (each in their generation) invest with life and motion the entire mass, which, as they drop off, grows by their deposits.

There is a singular fitness (so it strikes us) a fitness emblematic as well as of outward comparison in this coral's name of *brainstone*. It has been assigned to it as bearing superficially some structural resemblance to the brain—this in its cabinet condition of desiccated deadness. But let fancy restore it to its animated state. See it then (through the polypes that bestud it) eager for acquirement, busy in formation, figuring not unaptly a brain in working activity. Look at the character of its living forms—stellate, florate, fugitive —images of the brain's living thoughts—and how well does the coral's self-secreted, abiding basis (its monumental effigy) represent the abiding memorial which living thoughts are competent to erect and leave behind them!

The similitude might be stretched further and not perhaps over-strained. What without the brain's productions in their aggregate and transmission from age to age would be the existing world of mind? And what without products coralline amassed through countless generations, would be the existing world of

matter—the world of it at least in which we live? It would be less by a considerable fraction than it is at present, less by many and mighty masses of the limestone rock which encrust so large a portion of the globe, and which consist chiefly of coralline remains, less also by the coral reefs and islands rising now from out our modern seas, and composed principally of the massive products, brainstone and the like that we have just been noting.

It is in especial through the agency of these, and of agents even more minute, working continually under cover of the deep, that we recognise the ordering of the mighty Architect who hath "founded our earth upon the seas," and is still "preparing it upon the floods."

The order to which these circular corals belong has been named *helianthoida*, from the general resemblance of their floral forms to a sunflower, and their polypes are called actiniform, from their likeness to the actinia or sea-anemone. Wonderful and beautiful are they all, these marine globosities! They want only, what is hardly consistent with their rotund solidity, elegance and grace. For these we must turn to the coralline productions of another order,*

* Asteroida.

branching, jointed, flexible, foot-stalked, presenting in their general outline, as well as in their stellate blossoms, even closer similitudes than the above of vegetable forms.

Almost every sea-beach rambler, on the coasts especially of Kent and Sussex, must have often picked up shells or bits of broad fucus, on which have appeared, as if growing out of them, elegant jointed sprays of a light brown colour, each consisting of a central stalk with two opposite rows of short branches diverging obliquely from it. These we have taken a hundred times, and so perhaps have a hundred other people, for specimens of a delicate sort of sea-weed; but the production is no sea-weed, nor any member of the vegetable kingdom, though it is called a sea-pine.* It is in fact a branching coralline, an assemblage of little tubes united together, with openings at their ends for the protrusion of the polypes they enclose, and by which they have been produced. These polypes† are hydraform, much resembling, that is, our little hydras of the pond, only that instead of being wholly soft in substance, and independent in structure, they have each a horny case or sheath. These cases are connected, as the buds upon a plant,

* Sertularia. † Of the Order Hydroida.

by stems and branches, each animal being further linked to its associates by a channel of communication passing through each case.

For all their minuteness and innocent plant-like aspect, desperate carnivori are these compound hydras of the sea; not a whit less greedy than that green dragon the hydra of fresh water.

Now for a few more coralline productions, chiefly of the branching character, but more showy and of more universal recognition than this sea-weed-seeming sea-pine.

First, for the one most commonly, if not most thoroughly known of all, the common red coral. *Red Coral!* As we write the words what a shoal of remembrances and images are called up in a moment "from the vasty deep" of memory, as well as ocean! First, out of the deep of infancy, or its shallow, all through a succession, flowing over it, of life's later currents—the smooth and clear, the troubled and turbid, the deceitful and dark, comes floating to the top, and dancing and tinkling on the waves, a coral and bells—the very coral which, if we cannot quite remember having, we are quite sure we must have had. Next, rises the coral necklace, our own identical first and only coral necklace, and with it the image of

the good grandmother, who fastened it for the first time around our neck. Respectable shade, canst thou forgive us for thus setting thee afloat, spectacles and all, upon a sea (compound of memory and salt-water) like a half-clothed sea-nymph, a disreputable syren, or a fish-tailed mermaid!

After that coral necklace come a succession of mind's eye pictures that concerned it, and grew out of it with our mind's growth.

There is the ocean bed strewed with bright red berries, as our childish fancy imaged it when told that the "berries" of our necklace came from under the sea. Next, there is the submarine grove of glowing scarlet, as imagination sketched it when we learnt further that our beads had been cut out of branches that grew at the bottom of the ocean.

Following on this, we see the branching sprays chosen from a wintry copse and dipped in sealing-wax varnish, red and black, with which, in our earliest days of experiment, we tried to imitate the corals of the deep.

Next, up starts a group of coral "*insects*"—creatures of fancy, resembling somewhat flies or bees, and like bees working their hardest to build up habitations of coral, as bees of wax, to branch into groves and

unite into rocks and islands—an image this that came with what we thought a wonderful increase of knowledge, but only to vanish like the rest with better teaching.

And now, with insight perhaps only a little clearer into the mysteries of coral groves and (so-called) "coral insects," they appear to us under another and different aspect. Their branches, as they grow under the waves, are no longer red and bare, but invested (as by bark) with a bluish, fleshy clothing, studded with flower-like, star-like forms. It is in these we see now the coral "insects" (properly polypes), each in its separate cell, set in the fleshy substance covering the branches. These latter, which serve as an internal skeleton to support the whole, are red and stony, and are a secretion (no fabrication) of the resident animals.

These associate polypes, held together by the branches of their family-tree, and communicating through the soft tissue which invests it, are, when expanded, of a very star-like form. Like others of the same order,* they are eight-rayed, and the rays are foliate rather than round and slender like the numerous tentaculæ of the sea-anemone. Their colour, like the rind from whence they issue, is blue.

* Asteroida.

When the sea, in warm latitudes, is reddened, as one reads of, by coral branches, it is only as a battle-field might be whitened with men's bones; for with their living investiture life has departed from all these ruddy skeletons. Their fleshy covering and besetting polypes having gone the way of all flesh, have left behind, not as a useless memorial of themselves, but as a useful support to those that come after, "the relics of their bones." These continue to increase through the added deposits of existing generations, and, like the workings and deposits of human society, all serve as a basis for those of successive ages.

The coral-tree attains its height—a dwarfish stature of about a foot—after eight or ten years of accumulative growth. Then death, hitherto dividing with life the dominion of its branches, gains ascendancy, and, by help of assistant agencies, soon brings it to decay. Like a sturdy, dwarfish oak-tree, refusing to bend before the fury of the blast, the little stony coral-tree has refused, thus long, to bend before the fury of the waves. But the waves at last complete its ruin, tear it from its base, cast it on shore, faded, mutilated, and soon bereft of all vitality, reduce it to fragments, and consign it finally to the great storehouse of the deep.

The stony branches of the red coral, when bereft of their living investiture, are quite smooth, the cells of the polypes being no deeper than the soft substance in which they are embedded. But it is not thus with various other habitations of coral-forming creatures. We have seen it otherwise in the sea mushroom and other large round single polyparia; and it is otherwise in the arborescent productions called madrepores. In these, the laminated cells, which are numerous, and either large or very small, according to the species, are of the same stony substance as the branch itself, which they continue, therefore, to stud with star or flower-like forms — these remaining after death as sculptured ornaments on monumental remains. In respect of colour, a monumental effigy affords as good a notion of the complexion while in life of the departed dead as do cabinet madrepores in their naked whiteness of the vivid colours, greens, reds, blues, yellows, pinks, and purples which once adorned them—their beauty half hidden, half revealed under the waving veil of ocean.

These branching corals—madrepores and millepores —various in form and in colour, may be looked on as the flowering shrubs of oceanic gardens. In these gardens of enchantment how one longs to wander (if

one could wander at one's ease), as one reads of them in tales of voyagers or divers, to whom glimpses of the submarine paradise have been vouchsafed! Such partial revealments of the world beneath the waters are given, perhaps, to us self-appropriating men of earth, to remind us that nature is not a painter, and an architect, and a landscape gardener entirely for *us*, or in scenes to us accessible. Or perhaps they are afforded as incentives to make ourselves, by scientific re-creation, or for it, animals more amphibious than we are at present. Who can tell but that by aid of pneumatic appliances as yet unthought of, the terra (almost) incognita beneath the sea may become to us an acquired territory of occupation? We are making already highways for transit of our messages (our *minds*) through the briny deep. By-and-by (who can doubt it?) we shall be making highways for transit of our bodies through the same watery medium, or railways on the terra firma under it.

Then shall we be building Crystal Palaces under the waves, retreating to submarine villas from summer's heat and winter's cold—tropic fervours and polar freezings. Then shall we have opportunities for exploring, not in haste, but at leisure, the hills and valleys, grottos and caverns, groves and gardens of the deep.

Then will fields new and wider than all dry land affords us be opened for exercise of our prerogative as lords of creation. Then shall we be tamers of "all the things in the sea." Then shall we put not merely our hooks in the noses, but our bridles in the mouths of the monsters of the deep, making the swift and beautiful our arrowy coursers, the strong and hideous our drudging beasts of burthen. Then perhaps shall we interrupt leviathan in his floundering pastime, not merely as now, to put into his flesh thorns of agony, but that we may put upon his back a marine state howdah, of triple elephantine size; the same to be mounted on state occasions, the first, a submarine procession to commemorate man's completed dominion over, and under, the sea! But stay—we are getting perhaps beyond our depth—below, at all events, the level of our corals, whose builders never, it is said, exist at a greater distance from the surface than that of about a hundred feet.

The corals which owe their origin to the star-shaped polypes of the order asteroida, present infinite variety in the *texture* of their bases as well as in their form and colour. In the common red and white coral, and in various madrepores, we have seen the support or skeleton to be stony. It is the same, only outward instead of

inward, in that beautiful structure, the "organ-pipe," with its red upright tubes united by a succession of horizontal floors. The uppermost of these, while occupied by the living tenants, presents a stellular constellation of vivid green.

The axis is also stony, though flexible at either end, in the stem or quill of the sea-pen,* with its barbs beset with polypes, through motion of which it is impelled partly at its own pleasure through the deep. Thus studded with star-like gems, which are sometimes, like stars, luminous at night, is not this a pen fit for the handling of a sea queen? An implement, too, not more elegant than economic, shedding its living lustre, to the saving of midnight oil, on broad-sheet fronds of algæ, the paper unwrought, *untaxed*, of marine philosopher and sea-nymph blue. This luminous pen-natula is suggestive. Among the curiosities of modern art, one has seen or heard of pen-holders and pencil-cases surmounted by microscopic watches—might they not be capped as usefully by tiny lamps of instantaneous ignition, for pocket and pillow purposes? They might prove a pretty acquisition, in especial to the poet and the painter, in

* Pennatula.

nocturnal wanderings under sky unlighted by a moon, or in chamber unillumined by a patent night-light. A humble hint this to future exhibitors of future palaces of crystal.

It is stone, also, that forms a portion of the articulated stem of that gorgonian coral called the Isis. In this, however, the calcareous only alternates with a horny substance, so as to make the branches jointed and leave them flexible.

Other gorgonias of every hue and form of branching, some upright, some drooping, possess interior skeletons of substance wholly horny.

Of this description are the stems and reticulate expansions known commonly as sea-fans.* In the cabinet specimens of this beautiful production, the dark horny stem is often seen incrusted with a brown substance (once bright yellow). This is a sort of bark to the fleshy covering which enveloped, while in life, the skeleton of horn.

Of neither a stony nor a horny, but of a spongy texture are the skeletons of the alcyona, common polypifera of the same order, known most commonly, at least to mariners, as "dead men's fingers"—a name

* Gorgonia Flabellum.

one shudders at, associate as it comes with grasping hands of the drowning and swollen fingers of the drowned, and it is a name which gives also a general notion of the form displayed with some variations by these spongy corallines. The polypes of these alcyona issue from little protuberances on the spongy mass into which they can entirely withdraw; the protuberances themselves, almost disappearing on great contraction. In this shrunken condition they are often left by the retreating tide, but on restoration to salt water (to a sea even within the crystal compass of a goblet) the absorbing texture swells into its pristine size, the eminences on its surface regain their height, and, re-issuing from their summit, appear the vanished polypes. These spread out their radiate appendages, and then the whole looks again, as under the waves, a fingered form alive with moving efflorescence. Though spongy, these alcyona, be it noted, are not sponges, zoophytes which, though in some points resembling them, have not a place amongst the polypifera.

Only those who have never in their lives picked up a shell or noted a bit of sea-weed can be unacquainted by sight with a certain extraneous

adjunct* often found attached to both—as often as parasites to pomp, fortune-hunters to heiresses, rust to iron, moss to bark and stones. This adherent substance appears to the unaided and unexamining eye but a whitish incrustation covering portions of the shell or sea-weed it invests. On close inspection its texture appears reticulate or lace-like, and viewed obliquely seems sometimes beset with little hairs. A fragment magnified assumes another aspect. It looks then like a piece of honeycomb, only that the close-set cells are without hexagonal angles, and we discover the hairs to be a number of transparent filaments proceeding from the mass. It is only when this compound structure is restored, living, to its native element, and still subjected to microscopic scrutiny, that its true nature is revealed. Then appear the forms of life which have originated and still pervade it, and in its polype occupants, each a tube set round with longish tentacles, we recognise again our star-like flower-like animals of the Radiata. Now, these minute insignificances, so dependent not only on each other but on all sorts of other things, would not anybody suppose them to be the very lowest of the

* Flustra.

group they belong to? Yet is it far otherwise, for, instead of being the lowest, these tiny polypes of the *Flustra* (for that is the name of this curious production) are among the highest of the polype race. They are furnished with organs more complete and complex than those of the most magnificent sea anemone or sea-mushroom that ever expanded its disc below the wave. One of the marks of superiority belonging to these flustrites and others of their order is the possession of cilia or hair-like filaments which fringe their arms. These appendages serve an important use—that of producing currents in the water, which currents serve in turn to bring microscopic prey into the very mouths of our almost microscopic carnivori.

Of three progressive groups into which the polypifera have been divided, namely, hydra-like, flower-like, and moss-like animals, the last, however lowly in name, ranks first, and it is to this that the polypes of the flustra, the adherent incrusting flustra, appertain.

In this production, curious as common, we look on a perfect galaxy of stellate forms so minute as (like the worlds of the Milky Way) to wear hardly to the unaided eye the appearance of stars at all. Under

this, their aspect of almost indiscernible minuteness, these associate beings, though not, as we have seen, of lowest rank, may make perhaps not unfitly the last object of these rambling remarks on radiate polypes.

Of the radiates we shall now, at all events, take leave, though leaving unnoticed many stars among them even of the first magnitude.

In each of their three characters as animals, flowers, stars, these radiates of the deep seem to take leave of us with three distinct whispers, audible through the murmur of the waves.

They say, as *animals*, "You look down on us (and justly) as among the lowest of living creatures, made up nearly, as you describe us, of mouth and stomach. Yet, do we not eat only, we move and multiply, suffer pain, feel pleasure, take heed to self-preservation, even as you. Highest of the animals you must do more, or you hardly rise above us!"

They say, as *flowers*, "See how we clothe with grace and rainbow colours the ocean cavern and the barren rock. Perform a part like ours in adornment of your earth. By cheerful kindliness of heart be as flowers on its rugged steeps and in its darkest places."

And hark to what they say as *stars*, "From us, the lowly stars of the deep, look up to the stars on high. See something more than an apparent similitude between us. Our offices are resembling. They wrap in glory the course of the Creator in the heavens. We paint it with beauty as He walks in the paths of the sea!"

II.

LATE AWAKINGS.

"We *might* have been!"—L. E. L.

In a sheltered wood which used to be a favourite resort of our childhood we remember having, one winter's day, picked up a ball of woven grass which mightily excited our wonder and curiosity. Having a vague notion that it was made up within of a something different to what appeared without, it is only surprising that we did not pull it to pieces forthwith, to discover what that something was. Such, undoubtedly, was our ultimate design. Why it was postponed we cannot say now, and possibly could not have told then; perhaps we wanted to keep in store

the anticipated pleasure of discovery, as children (some of them) will put by sugar-plums.

Be this as it may, we were conveying the hidden treasure homewards (the hand that grasped it waxing warmer every moment under the combined excitements of haste, expectation, and noon-day sunshine), when we felt the globe of grass in heaving motion, and heard issue from it a small shrill cry. We will not affirm, at this distance of time, that the cry was unanswered by a scream. We only remember clearly that down went the ball on the path before us, but that being sandy and soft, it seemed none the worse for its fall. We were not certainly in as great a hurry to raise as we had been on finding to pick it up; for our suspicions touching the contents of that mysterious ball tended to the notion that the mystery within it must be a mystery of life, and life veiled in mystery has always something awful about it even to the apprehension of a child. However, after a short contention, curiosity conquered fear, and the thing continuing to lie as motionless on the path as innocent bundle of dry grass ever lay, we carefully lifted it from the ground, and ran home with it at the utmost of our short-legged speed. Not Atlas tired of a world's weight could lay it down with greater satis-

faction than did we our globe of grass as we set it on the table before our nursery fire. Presently it began again to heave, and not one but many feeble cries proceeded from within. Bold now in the fortress of home—bolder still in presence of another face, expectant as our own, looking on to watch the issue, we proceeded to lay open the light brown sphere, when lo! in its centre appeared its tenant and fabricator, none other than a half-awakened, half-thawed dormouse. It was still rolled in a furry ball as round nearly as the grassy case which had encircled it; its nose between its paws, its bushy tail over its head. By degrees, however, as the poor sleeper waxed warmer and warmer, crying all the while louder and louder, it uncurved its spine, stretched out its limbs, and expanded its little pinky feet in what appeared to be the agonies of waking; extasies they surely were not; ours were the extasies to see it thus or anyhow reviving. We had had dormice before, brought us by the village boys who caught them, but this was the first found thus—the first of our own finding; so to us it was a golden dormouse, and the little grass globe with its single inhabitant as a Columbian world of our own discovery. With a world of pride, therefore, we consigned it to its cage—a proper cage, with

wire-arched hall and wooden dormitory. In the latter we laid it on its disordered bed, and then set out in the dining-hall an alluring repast of nuts and apples. Alluring did it prove, for we had soon the infinite delight of seeing our captive issue furtively from under the raised portcullis betwixt his two apartments, no longer a half-alive, rigid, frigid, miserable, crying object, but as soft, warm, lively, large and bright-eyed a little animal of the genus mus as was ever clothed in short brown fur, to sit up on end squirrel fashion, drill nut-shells with his yellow incisors, and cleverly empty them through the holes of his own boring.

Poor little drowsy devil! We wonder if we gave thee compensation in that winter feast, and many following, for the somnolent enjoyment of thy winter bed, or for the painful transitionary state attendant on thy forced awaking? Painful that assuredly was, but whether entirely from being forced may admit of doubt. Perhaps all wakings after a long-protracted slumber may partake of pain. Sleep, after having got a strong hold and a long, may always require a rough shake to shake it off.

The bear hugged by Morpheus in a grip tight as his own—the bat which the same poppy-crowned

deity has taken and hung up for the winter by the hooks of his leathern wings—the toad, awakened by the knock of pickaxe or of hatchet on the wall of his chamber in solid rock or solid wood, where he has slumbered for perhaps a score, perhaps a century of years—none of these perhaps slip into the sensations of their living life with as much ease and comfort as may the same creatures after a mere blinking doze upon a summer's day. We may, at all events, hazard the conjecture that Nature exacts something of a penalty for long indulgence even of her own permission; but leaving this as regards the above and other of the "seven sleeping" animals, we may descant with a little more assurance on the same subject as regards the animal, man.

Amongst *us* is waking, even in general (we merely speak now of waking from sleep of the body), a pleasant process? Judging from our own experience, we should hardly say so. It would seem to us, on the contrary, that the waking moment, or moments, are generally the least agreeable of the twenty-four hours —or of the twelve or fourteen rather—of our daily conscious life. If that moment comes too soon, i.e. after a short and broken slumber, it comes from something wrong about us in mind or body; therefore,

with a correspondent feeling. If it comes too late, i.e. after an over-long repose, it brings its penalty of headache and confusion. If it comes at the end or in the midst of a pleasant dream, it snatches one from Paradise. If under infliction of a frightful vision or oppressive nightmare, it finds and leaves one (for a season) in a panic purgatory. When one first awakes after some occurrence particularly pleasant, ten to one if the agreeable incident has not been put out of one's head or heart by the intervening hours of forgetfulness; but when, per contra, one first wakes after some sad calamity, there it is to stare one in the face the moment one opens one's eyes upon the morning light or darkness, and before one has had time to arouse one's slumbering forces of resistance or submission. So, at least, we have always found it. Nay, more. In the absence of anything unusual, pleasant, or the reverse, in the common course of our always checquered days, we have generally found that a black square is the first to meet our waking eye. We have even gone to sleep looking almost to dazzlement on a white or bright one, and yet its gloomy opposite has been the first to greet us coldly in the morning.

We are only speaking, be it remembered, of our own experiences, and these may be founded on some peculiarity of temperament or constitution.

But there are first awakings from other than from bodily sleep of which these remind us—wakings from the somnolence of dormant senses, slumbering faculties, congealed hearts. These are likely to be painful in proportion to the hour of life's day at which (if ever) they happen to occur, and to the duration of the slumber they succeed. Such can hardly indeed be said to take place in life's morning, the wakings of those "sweet hours of early prime" being natural and gradual, as new perceptions, with all their attendant pleasures, open like spring leaves, accompanied or followed by spring flowers. The wakings we have now in mind are such as are likely to be forced upon us, perhaps at some one moment of our middle day or evening life. Suppose that, roused by the general stir and bustle of progression, we then awake and find ourselves left with only laggard companions far behind—suppose that, pricked by accidental contact, whether in book or converse, with minds that have not so slumbered, we wake and shudder at the blank presented by our own—suppose that, struck by some strong or beautiful appeal of nature uttered by herself or conveyed through the tongues of her increasing company of inspired interpreters, we awake and wonder that we have been blind and deaf till now to

all her marvels, her sweet and deep discoursings—or suppose last, but oh! not least, that the "small still voice," never silent, is heard at last within us, and we start and wake, perhaps from a dead inactive slumber, perhaps from a feverish dream of busy, vain, unsatisfying, worldly life, and catch a realising glimpse of a life beyond, to which a life like that is not the path or portal.

Awakings such as these may arouse to proper purpose, but they are just as likely to make us go to sleep again in the very deadness of despair, to oppress our every sense with the weight of wasted years, and to cause our hearts to sink within us under the same burthen. . . . Well, that burthen *is* a heavy one, and we must lay it down or still do nothing. But how shall we be quit of it? What, in its heaviest aspect (that of grievous sin against the Great Giver of the talents), shall be done with it? We must lay it down, this sin of a dead life, heavy in proportion to its sort of deadness and to wasted opportunities, at the feet of Him who has promised to give us rest. As a wrong done to ourselves, we must also lay aside this weight of wasted years, nor suffer it to hang, torpedo-like, upon the vital energy which, weak already through disuse, has need of all its forces for repairing effort.

Instead of dwelling bitterly on what "we *might* have been," let us be doing bravely to become the best we *can* be yet. Instead of standing, hands folded, to look back upon the waste behind where *should* have been a cultivated garden, let us with hand and heart work our hardest on the bit of unreclaimed ground yet left of our allotment. That, on culture, may still yield abundantly. How abundantly who can tell? A woodland ramble may herein bring us thoughts of encouragement. We look upon an oak luxuriant in maturity, upon another green in old age; but their trunks are more or less unsound. Within them we might seek in vain for the due number of those concentric circles which should have marked their years of growth. These are deficient, perhaps through shallowness or poverty of surrounding soil, perhaps through want of assimilating power in the trees themselves. But, though the woody fabric be thus imperfect, branch and leaf continue to put forth. So with us, the solid tissue which years of intellectual progress should have formed may be deficient, perhaps through meagreness of mental nutriment, more likely through absence of mental effort in our hours of morning or of prime. These may have gone by for ever. Truly, what "we *might* have been" we can never be; but

while, like the tree in wood deficient, our root is in earth, our watering from above, we may yet resemble it in the power to throw out shoots of strength and verdure, and rejoice in a sense of reinvigorated life.

It is not possible, neither desirable, that our first awakening from a sleep of supineness should be other than attended with real suffering, as the first awakening of our dormouse from his torpor of benumbment with apparent pain. Something like hard struggling and pitiful crying must wait upon our rousing as on his; but struggling and crying over, let us, like him, begin to open and discuss our nuts. These, our nuts, what and where are they? Let us ask rather, "what and where are they not?" They are the things of providence, the things of nature, each with shell and kernel; some, perhaps many, easily accessible, but which we in our slumber have suffered to lie around us unobserved.

But suppose us to have awoke at last to some of these unregarded things; to the nuts, let us say, which nature presents to us in her common objects—we *know* them to be clustering about us; but what, we are ready to exclaim, is now the use of that? Our unaccustomed sight is no longer apt for their discernment, our unexercised arm wants strength

and dexterity to bring them within reach. We have failed to make our own by appropriate study any assisting implement (the hooked stick) which should aid our efforts to obtain them; and if, after a sort, obtained, we possess not the acute perceptions (the incisors of our dormouse) which usage should have sharpened to bore shells and draw out kernels.

Thoughts something like these must be the hand-maidens, rude, but honest, attendant on our late awakings. Their services may not be welcome—what should be their help we may convert to hindrance; but rather let us accept their stirring aid, and thus assisted, make haste to dress ourselves anew for the new days yet before us, no longer (be they few or many) to be days of darkness.

Herein it is not from imagination that we write. An egregious sleeper have we been, and something have we known of late awaking—painful, partial, yet oh, how fraught with succeeding pleasures, of which in our slumbers we had never dreamt!

Our earliest years, with many following, were spent in the country—in a home county, rich in beautiful scenery, and in the gifts (some rare) of plants, insects, fossils. Scenery always must have influence, however insensibly exerted, upon growing minds, and doubtless

the chalky hills and verdant meadows of our native place left their impression upon something within us deeper than our senses. As for the productions of that pleasant spot of earth, its "painted populace" and possessions, insects, plants, fossils, nothing did we know or care to learn about them.

And how was this? Were we constituted an anomaly of our kind? a young animal of the human race without inquisitiveness? Had our inquiring propensities (if possessed) found other food than that of which nature is purveyor? or had we no conductor, no guide (either of flesh and blood, or of paper and print) to lead us early to her table? There were not, certainly, in our days of childhood the innumerable alphabets to nature's language, and ladders to her learning, such as now crowd even to incumbrance the nursery bookcase and the opening mind. We had not these, but then we were not without something of the sort, their precursors and their models. We "might have been" led to look betimes into some of the wonders of nature and eke of art by the pleasant dialogues of the family of Harcourt.* Besides these, we possessed (a mother's legacy, and consecrated by her own early use) those volumes of delight† in which

* By Lucy Aikin. † "Evenings at Home," by Mrs. Barbauld.

"Eyes and no Eyes" holds an awakening place. These were enough to have opened ours to many of the unnoted things about us, but opened they were not. So from the days when we sat upon the grass, making daisy chains and acorn teacups, even to the days, and far beyond them, when "we might have been" examining the structure of compound flowers or tracing the development of the oak from the acorn, we went on enjoying the country, it is true, but only according to the capabilities of a butterfly or a kid.

We basked in the sunny meadows, scaled the chalky hills, animal spirits wide awake, mental faculties slumbering as soundly all the day as did, when night came, the frame they slept in. Ah! that frame was rocked then by those ministers to Morpheus, Youth, Health, Happiness; with us, alas! his ministers by day as well as night. But the time came (and to us it came early), when youth, health, and happiness began to fade together; and then did we feel first a want of something beyond merely animal enjoyment of a country life. We had never had a childish companion of our childhood, and it so happened that we had no young companions of our youth—no familiar acquaintances except the woods, and hills, and meadows; and these, which had so long sufficed us, began some-

how to grow dull associates, till we came at last to wander amongst them, dead to all, even their external influences, asleep in self-hood, and dreaming over certain domestic trials of our appointed lot, magnified and distorted, like well-known faces in an uneasy vision of the night.

Our family elders were old-school people, in the sense especially of setting their faces against education for the million; also, of looking on their own and everybody's as quite completed on the day (whether fifty years ago or five) when they turned their backs on their respective academies.

Standards there were, however, of a more intellectual stamp, under the shade (or the light) of which we had sat from childhood. These were the standards of a family library, which were never grafted, by the way, with new slips from that tree of growth prodigious—the literature of the day. Of its most tempting fruits we nevertheless loved to imbibe the juices through their rinds of gilded calf or Russia; but at the time we began to tire of our purposeless summer rambles, we began to nod over our aimless readings by the winter fireside. The only rills from the Nile of modern literature which were used periodically to reach our home, were a daily paper, sole study of the

head of the house, and the Penny Magazine, taken in by the housemaid. Ah! Betty, now we come to think of it, it was perhaps to thee, to thy turn for "scholardship," to thy pennyworths of popular instruction, so freely and so proudly imparted unto us, that we were indebted mainly for our first awaking to some of the objects of untiring interest that lived and moved around us. Those attractive articles of Knight and the Society, descriptive of plants, and four-footed beasts, and feathered fowl, with their bold effective woodcuts, were always the first we turned to in each welcome number. These did not, it is true, send us with prying purpose to the hedges and the woods, but they led us to disturb the dust of another, to us, new, department of our old library. Richardson's and Fielding's anatomy of the heart was abandoned for the venerable Grew's "Anatomy of Plants;" the flowing numbers of Pope for the zoological pages of the pleasant Pennant; the old-fashioned portraitures of the "Spectator" for the obsolete articles on natural science in a voluminous Encyclopædia, one of the fathers of its race. The most that we seemed to gain from these our idle, immethodical, impractical book-explorings in a new direction, was a little revived interest in reading itself, and with this a vague im-

pression that we had been born perhaps with something of a natural taste for natural history, or what is usually (but too exclusively) so called. Ah! sighed we, if we had but taken up in time any one of its branches, "we *might* have been," perhaps a botanist, an entomologist, a geologist (who knows?) and in course of so becoming, many an hour, now lost for ever, might have brought us its pleasures and left us its profits in possession!

About this time there fell into our hands Reausseau's Letters on Botany. We began to read them simply as a book, by the window or the fireside. Not thus could we have travelled far on the path, however flowery, traced by the ardent worshipper of nature for his lady friend. We speedily discovered that, to make these letters of introduction available at Flora's court, they must be, like other credentials, actually *presented*, and that after the manner intended and directed by their writer. That they must be taken, in short, as our guide, companion, and familiar friend, into Flora's own dominions, into garden, field, and woodland. Thus employed, we found in that little volume the thing we had so long been wanting. It served as a talisman of enchantment to arouse us from our unobservant sleep of years. Through its

assistance, we acquired at last that pearl of price—a practical pursuit. Curiosity was stirred by the wonders and mysteries of floral structure. Activity aroused for search of floral specimens; perception exercised to determine orders, classes, species. An attempted Hortus-Siccus became to us a living garden of delight, albeit as sorry a display of brown, and shrivelled, and mildewed specimens as ever tyro collector got together for his pains. But what was the loss of paper, of patience, sometimes (seemingly) of time? We had gained, not, indeed, what was ever likely now (whatever "*might* have been") to make us a botanist, but what sufficed to enrol us at once as a pupil in nature's own school—a school for adults as well as infants.

Flowers, which had been heretofore objects to us of sense only, of sight, and smell, became thenceforward objects of thought, of search, inquiry, fancy; and under this, their novel aspect, all the old friends of our daily walks — woods, fields, lanes, hills, and hedges, put on new faces, which, in their ever-changing features, were never to grow dull and inanimate again.

People may talk as they will about the untiring delightsomeness of the country in its general and outward aspect; but when confined to one retired spot,

we come to cross the same fields, follow the same roads and lanes, look at the same prospects day by day and year by year, with no objects to arrest our attention by the way, or tempt us to diverge from the beaten track, the charms of the country *will* pall, and a country walk become a dull affair, or a thing of mere animal enjoyment. It was meant to be so, to drive us to dissatisfaction with the mere eye-pleasing, health-serving attributes of the natural world, hence, to seek in them the inherent qualities of mind-pleasing which they so pre-eminently possess.

It is only minds of the lowest stamp, and of the highest, that are content, for long, with nature in her generals; the former in their apathy and drowsy deadness, the latter in their powers of imagination, combination, comparison, by aid of which every natural object, be it general or particular, becomes suggestive of ideas, out of, and beyond the pale of nature's own dominion.

But minds of medium and commonplace order must, as we believe, be apt to tire of nature in her outward aspects, where she is their constant and their sole companion. To such then the value is incalculable of a sense awakened to her inward worth, to a desire for acquaintance with some of her particulars—

her specific objects—to a pursuit of her, in short, in some one of her multifarious paths.

Pursuits such as these, whether after plants or other creations of the Great Creator, possess with a thousand recommendations this advantage. They have their adaptations to the humour of almost every day and mood. They have their exciting searches and their pleasant findings, their curious examinations, their isolated facts, all affording easy and amusing exercise when the mind is indolent, perhaps depressed; when it is in no condition for effort, excursion, or combination, mental processes for which, nevertheless, we are meantime laying up material. Many are the days on which we may find amusement in seeking for a plant, an insect; in examination of a leaf, a flower, or a beetle's wing, when the beauty of the varied foliage, the enamelled meadows, the glorious sky, may appeal to us in vain. Yet will the influence of nature in her general aspects gain, not lose, in their power over us, by improved acquaintance with her features in detail. Even while engaged in the study of her minutiæ her *tout ensemble* may be working insensibly upon us; or, if for awhile we may seem absorbed in scrutiny of parts, we shall turn thence with heightened, if not new enjoyment to the whole.

Let us conclude with a single instance of the way in which some of the most common objects in our country-walks appear under new aspects, are dressed in new beauty, acquire new life, inspire new interest by bestowal on them of something more close than general observation.

We will imagine a pretty bit of rural scenery, or take one rather from memory's sketch-book. Let it be a scene near the village of Hadley, in the vicinity of Barnet.

If, reader, you have ever visited that romantic locality you can hardly have failed to admire in particular that portion of it called the Common. If you have loitered there on a summer's evening you will say, perhaps, that you could never tire of the scene there presented. You cannot have forgotten it. You must remember surely how you entered on it from the village by a white toll-like gate, but free of toll, except for a levy on the hearts of the charitable; the gatherer, an aged woman, who on sunny days is always seated on her rush-bottomed chair beside the path-way, ready, with palsied hand, to open for the passers-by, and curtsey for the penny, and smile for the pleasant word that may be given her on passing. The gate behind us, we come to a corner of the

Common here bounded by two roads diverging at right angles, and leading the one to Enfield, the other to the retired village of Cockfoster. On our left stands the church with its ancient "ivy-mantled" tower (a beacon-tower) with lofty elms surrounding and surmounting it, the pretty cottage parsonage just below. On our right is a noble pollard (an elm also), its head a grove of branches, its hollow trunk a capacious cavern. A large clear pond (in its centre a little green island crowned by a weeping willow) occupies the angle of the Common. This Common presents us, by the way, with no wide expanse, only two slips of heathy ground, bordered on one side by the diverging roads, and bounded on the other by a wood of oak and beech, which opens in green vistas to blue distances beyond. All this, you who are acquainted with the spot, will readily recall; and surely you must remember in especial how those belts of verdant turf and purple heath are prettily studded by numerous clumps of hawthorn, blackthorn, eglantine, and holly. If you have ever seen them, as we have, white with May-flowers, or pink with briar-roses, you cannot have forgot them, or the frequent pools of water which reflect their summer bloom.

If these and other features of this pretty landscape are yet mirrored on your mind, it must needs retain also the images of various moving forms in absence of which the picture would lack of life, if not completeness. You must remember the ducks and ducklings in the willow pond, sailing round its central islet, or busy in the weeds that fringe it. The geese on the common, with their broods of every age, size, and shade of plumage, from down of soft bright yellow to feathers of the parental white and grey, the young huddled for the most part lazily together, the old quietly cropping the grass, or noisily stretching out their long necks in defiance and defence—the rough ponies and skeleton horses always at grass or work—the smooth, plumper bits of horse-flesh just turned out for an hour's graze, which they turn into an hour's frolic, chasing and biting one another in the exuberant delight of well-fed freedom—the quiescent cows grazing, ruminating, and whisking their tails as they stand in the pond or pools of water—the boys filling their buckets from the boarded well—the railway labourers returning worn and weary from their over-straining toil—the youthful cricketers come out joyfully from school or shop-board for the evening game—the cuckoo shouting from the woods—the

blackbird warbling from the churchyard or the parsonage-garden—the woods reposing under a canopy of summer clouds, light and motionless—clouds and woods, both gilded by the beams of the declining sun, here glowing on the tree-tops, there glancing on their trunks, and checquering the umbrageous shadows by streaks and patches of yellow light. This, or a scene as beautiful, may have power to strike into the mind so deeply by a first impression as never to be quite effaced; but it follows not, therefore, that such a prospect, however varied both in itself and by changing seasons, should never tire, seen day after day, month after month, or year after year. We are pretty certain that it would, with some, perhaps most people. It would be so, at all events in our own case, with any example of the rural or the picturesque viewed only as a picture.

But suppose that instead of being presented with a pleasing combination, such as constitutes a pretty landscape, that, say, of Hadley Common, our eye was restricted to one portion of it; confined to *one* of the objects there assembled—one, for instance, of those graceful clumps, or even a dozen of them, such as we have seen studding the belt of turf above described. To be condemned to look day after day upon nothing

better than a bush! or a bit of greensward with a dozen bushes on it! What a penance! Yes, a penance truly for the eye that takes in nothing of the bush but its general form and colour. Suppose, however, that for very lack of room to make excursions the eye calls in the assistance of the mind, and the two together begin to pry into that bush of compounded growths with a view to analyse or distinguish its component parts; examined thus, let us see what was noticeable in one of those clumps on Hadley Common as it appeared on a June evening some three years since, and much doubtless as it appears now under the renovation of the present summer. The first thing that strikes us on consideration of this sylvan group is a certain order in its wildness. Its substantial bulk and body is made up of an aged hawthorn, a picturesque relic of its once vigorous self, a trim stiff young blackthorn, and a graceful briar-rose, now in the beauty of its opening clusters. We might liken the hawthorn to a decayed gentleman, the blackthorn to a vulgar upstart, the eglantine to a blooming fair one, halting perhaps betwixt the two, and meanwhile smiling upon both. But we are not poetising, only observing; so let us be content to look upon the shrubby trio as simply what they are—even

viewed thus, we must perceive a purpose in their association. They serve for mutual setting off, and for mutual support. When the driving winds career across the Common, the eglantine, the feebler of the three, must find the profit of their paction. Then, if these, the magnates of the bush, experience in their union mutual benefit, how much more do they confer it on the various smaller and weaker individuals, the climbers and creepers which encompass and festoon them? These are the clustered woodbine, the green-blossomed black briony, the elegant convolvulus, the bending bitter-sweet; while amidst and over all (interlacing and embracing) are thrown the arms (some, verdant green, some, wintry brown) of a prickly pliant bramble—a bond at once soft and stringent to bind the whole together—an emblem of the loving duty which binds the members of a united family.

At the foot of this vegetable column spreads a flowery pedestal. Here grow many familiars of the wood and hedge-row, a variety of chickweeds, their white star-like blossoms putting out the daisies, the blue veronica, the pink herb Robert, the dog violet, its light coloured scentless flowers succeeded now by large green capsules. Here is a plant or two besides, strangers truly unto us, subjects therefore for

home scrutiny and our botanising box. Over and above these, or over and *below* them, foils and contrasts to their delicate beauty, ferns, and docks, and nettles intrude here and there their coarser presences.

These, we believe, are all the vegetable growths which in their combination constitute this common clump; nay, but there are grasses, and mosses, and lichens, and fungi, (how many is beyond our reckoning?) which we had almost overlooked.

Well, few or many, these and the rest are clearly assembled for mutual service, and protection also, doubtless for the pleasing of our eyes, and the employment of our thoughts. But is this all? Hardly, for the bush is attractive, evidently, in the eyes of other creatures, and the secret of its attractive power is sure to consist in use and pleasure likewise. We have only to look closer into branch, and leaf, and blossom, and behold a multitude of living witnesses in attestation of the fact.

Here amongst the branches of the blackthorn are a few reduced entirely to skeletons; on others are left fragments only of dead and living leaves; both dead and living are wrapt in transparent filmy shrouds, in which also their weavers are inclosed. These are those great destructives, the little caterpillars of the

little ermine moth. It is easy to know them, partly by the work of their jaws (destructive and formative), partly by the colour of their coats (grey and black), as we see them (dimly discernible through their veil), busy in the business of their lives, that of devouring green leaves, and, fast as they eat, inclosing others to be eaten within cover of their woven hammocks.

Besides these preyers upon leaves, we perceive others of the insect crew, preyers upon lives, some, however, glad to draw leaves into their service, to assist them in the capture of their prey. Of such are gaily coloured spiders, variegated green, and red, and white, and brown; some lurking in ambush beneath foliage, or in leaf-constructed nests; others suspended head downwards in the centre of their geometric webs, more open, but not less cunning murderers.

Brilliant scorpion flies (black and gold), their day's work of destruction over, their thirst of blood subsided with the midday heat, have settled for repose in the recesses of the foliage, but are betrayed to sight by the glitter of their wings, as the low sunbeams penetrate their coverts. Except a belated bee, that just settles for a rest, *en passant*, not an insect else can we discern within this leafy harbour. Nay, but there are small red beetles (weevils) with curious long

probosci, on the dock; and here are others, bearing a family resemblance, but glittering in green and gold, upon the branches of the blackthorn.

Here is a plant of woodbine, which we never saw till now. What can have puckered so many of its tender leaves into shapes of strange distortion? Ah! here are the fairy Pucks to whom they owe disfigurement. They are groups of little green-grey aphides huddled together in hollows of the leaves (on their under surface), which, with answering convexities above, had never been but for these blighting varlets, each with his pipe for sap extraction.

Others of these leaves, of the woodbine, are variegated by meandering lines of white. Here again insect marauders have been at their insidious work, though in this case to beautify rather than deform. These white and winding tracks are outward traces of the inward presence of certain little worms or caterpillars, known as leaf miners. They are busy now in perforation of their tunnels through the thickness of the leaf, eating as they go the green pulp they excavate, the white membranes only (upper and lower) being left behind. These tracks, which widen from their commencement, end in an area wherein, in some of them, we can discern, on holding the leaf up to the

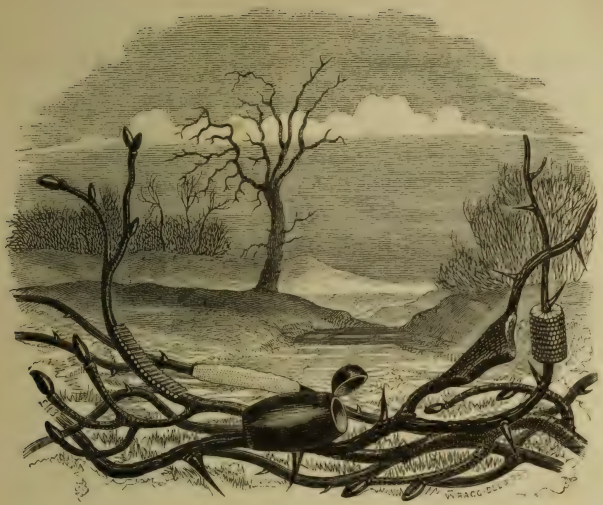
light, a small brown body. By its barrel-like form it must be the pupa or chrysalis, not of a moth, as with leaf-miners is frequently the case, but of a fly, of what sort precisely we cannot tell. Some of these leaves, therefore, shall travel home along with our new-found flowers. Then, in a few days, or a few weeks, we shall see, doubtless, these sleeping miners (now in their second stage) in a waking and a winged form.

So, we have found, we think, abundance of objects, varied, beautiful, curious, interesting, in the boundaries of a bush. An eye more observant, more instructed, in other words, more early awakened and awake than ours, might detect as many more.

A microscopic eye, i. e., an eye assisted by the microscope, could multiply as well as magnify them a thousand-fold. Then, if we take into account the perpetual changes wrought in each of these varied forms, whether of foliage, flowers, or insects, by the influence of seasons or in the course of development or decay, we shall find no bounds to the variety comprised in this little clump of nature's clubbing.

The expanse of surrounding scenery, the smooth greensward, the heathy patches, the sparkling pools, the woods, the woodland vistas, the blue distances all disappearing, this cluster of common shrubs and plants

left an isolated object on a level waste, it would suffice to furnish of itself (as we hope has been already proved) a fund of interest for country walks innumerable. What, then, must be the riches, in amusive sources, of the scene around, and of the extended tract in which that scene is but a part? Exhaustless, truly, but only to the eye and mind which have been awakened (late or early) to some of the *particulars* lying (to the unobservant) utterly hidden within the *generals* of nature.



III.

HEDGES IN WINTER.

"Hawthorn had lost his motley livery,
The naked twigs were shivering all for cold."

SACKVILLE.

NEARLY all rural objects have their winter aspects of agreeability. Like people with remains of beauty, they have something left of what belonged to them in brighter seasons; or like people with more than beauty to recommend them, they show themselves possessed of that which is independent of seasons and their change. The sky, in winter, has its glorious

sunsets; the hills, their blue remote; the fields, their chasing lights and shadows; the waters, their brightness and augmented fulness; the woods (their bareness veiled by distance) still present masses to the eye on which it can pleasantly repose; while the trees, viewed apart and near, exhibit, some of them, such grandeur, some, such grace of outline, that we admire them in absence of their summer drapery almost as we do a beautiful statue that owes nothing to colour or to clothing. Thus it is with sky, hills, fields, waters, woods, and trees; but what in winter can be said for hedges? When Autumn in his last bluster, or Winter in his first breathings, has stripped *them, they* (to most of us) have lost all that served to make them beautiful or bearable. A bit of hedge—a bit in particular of well-trimmed hawthorn, shorn even in summer of all its picturesque belongings, becomes in winter one of the most ungraceful, uninteresting, drowsy, monotonous, unpoetic bits of nature, or of art and nature put together, that eyes can well find to look on. So, at least, it would seem upon a superficial view. Such a piece of quickset hedge is pre-eminently a piece of "still life," a term much more applicable to a thing of vitality and growth, without visible sign of either, than to those faithful likenesses of carrots and cauli-

flowers, fish and game, pots and kettles, which go in catalogues by that appellation.

We may see, perhaps, by-and-by, that a hedge in winter, however "still," has, as a piece of life, more tokens of vitality about it than is usually supposed. It may hence be found as full of points of interest as of prickles, which, like these, are made all the more apparent by absence of leaves.

Not just yet, however, shall we invite our reader to bear us company to the side, even the sunny side, of a white or blackthorn fence, in dark December or hoary January. We would deal with him rather as the gently blending seasons deal with us, each introducing to her sister, and lingering by while first acquaintanceship is made.

A poetess of modern time* declared her preference of a hedge in autumn, with its fruits (hips, haws, sloes, &c.), to a spring one with its flowers. According to times and seasons, one's taste, one's humour, and one's age, one may agree with or differ from this opinion. Like the seasons themselves, all their characteristic features have their peculiar merits and attractions. So, not to compare at all things that cannot be improved, and that we cannot wish (if we

* The gifted L. E. L.

could) to depreciate by comparison, let us look simply at that with which an Autumn hedge presents us.

Autumn, the evening of the year, is warm, like the evening of the day, with glowing tints—purples, reds, and yellows, as of a gorgeous sunset sky. Spread broadly upon garden, glade, and grove, these vivid hues are nowhere more concentrate than upon an Autumn hedge.

If we view the seasons as painters, Autumn may be looked upon as nature's Titian. When busy with his colours, he would seem to use the hedges as his palettes for first trial and arrangement of his varied tints. With leaves that are deciduous, it is a law of nature that the green should, in Autumn, "all turn yellow." Their organic structure is not such as enables them to resist the agencies of dissolution then abroad. But we must not look upon Autumnal colours as *all* of Autumn's preparation, nor all the painting of the season as the *immediate* production of the season's pencil.

Autumn (viewed still as a painter) is indeed the master-hand. His the works upon the largest scale, but in the same magnificent studio, working beside, and in harmony with his own colouring, is a large company of little subordinates, whose productions

cover no inconsiderable portion of the reticulate canvass of the leaf.

With leaves as with pictures, the more highly they are varnished the longer they last. The perennial or evergreen owe their durability to their surface polish; and where this is broken, decay has found a loophole large enough for entrance, though it be no bigger than a pinhole. Minute fungi, wearing the appearance of dark spots, often open a door in this way to premature dissolution. It is thus with the laurel and the holly. Thus also with the leaves of the sycamore and the elm, so often studded in Autumn with dark-coloured blotches, which have been aptly termed their "plague-spots" of destruction.

The above and other undermining agents of similar description help to colour (or discolour) as well as to destroy; but the subordinate leaf-painters, to whom more particular allusion has been made, are of the animal, not vegetable kingdom. They consist, in short, of those insect colourists who, finding in green leaves their grounded canvass, employ on it as pencils their suckers or their jaws.

These plied assiduously in abstraction of vegetable juices, and in commingling them with animal acids, often anticipate the course of change, and, when the

season of change comes, help considerably to produce or heighten the yellows, reds, and browns which form the predominant hues of autumnal tinting.

In the spotting of foliage as well as in its shading, insects play an active part, and are almost sole performers in the warpings, and curlings, and rollings, and foldings (to say nothing of the consumings) of which leaves are the devoted victims. Where these operations are extensive, they suffice of themselves to give an autumnal complexion to hedge and tree long before the arrival of autumnal change and fall.

The autumn hedge is hardly richer in its gorgeous drapery of leaves than in its glowing jewellery of berries. Hips and haws (the winter bread-fruits of the bird) overlay it with opaque masses of crimson and bright scarlet.

Blackberries, richest of the fruits that are not to the poor fruit forbidden, sprinkle it with green, red, and purple in their triple and intermediate stages.

The woodbine, in its fruiting, adorns it with red transparent beads—the cornelian, as the hip is the coral of the hedge. Also transparent are the berries of the climbing briony. Hanging in clusters on its withered arms, and glowing so brightly beside its brown and shrivelled leaves, they remind one of the jewels

which make age look older glittering on a withered breast or wrinkled brow. With these, in clusters also, appear the poison-berries of the bending bitter-sweet, green, yellow, crimson, all contrasted alluringly with its purple residue of graceful flowers.

Then lowest, if not last (for all their sounding titles), are assemblages of "lords and ladies."* They have thrown aside their hoods, and in all their scarlet bravery are peeping at us and at each other from amidst the hedge-foot herbage.

Autumn and Pomona together may be looked on as modellers and painters of the above productions; but besides these we are presented in an autumn hedge with a variety of others—fruits, also, or looking like them, with which neither Autumn nor Pomona have much to do. These are the fictitious fruits which have been pricked into existence by the magic wand of the fairy gall-fly. In these, also, the hedge owes a portion of enrichment to insect agency. Galls *par excellence*, those of royal celebrity as apples of the oak, show their ruddy ripeness perhaps in the hedge itself, perhaps in the oak that overhangs it. So with the minors that often accompany this major of the gall family—the little berries of like features

* Arum, Cuckoo-pint, Wake Robin, &c.

and complexion, which either find a seat upon the oak-leaves or hang like currants from the catkins; or wearing a semblance altogether different, transform the budding shoots into lilliputian artichokes.

Other, the like fruits of mimicry, are alike common on the lowlier and more shrubby growths of which a hedge is usually composed. The thorn, the briar, the maple, the willow, has each its peculiar excrescence of this description. The briar-rose or eglantine has two. Its branches (thanks to a gall-fly) are often ornamented by tufts of flower-like crimson and moss-like structure; the rose bedeguar and the scarlet hip is not (to the eye) the only fruit ever met with on the hedge-rose-tree.

If we look in autumn amongst its changing or falling leaflets we shall be sure almost to find some amongst them beset with berries. These, as well as the mossy bedeguar, are galls, some as big as large currants, others as little as pins' heads. Some, like a currant, perfectly smooth, others betokening by thorns the briary nature of the shrub they spring from, and all tinged with red as a ripened peach or apple on its sunny side.

These gall-fruits are common things, to be found commonly on a variety of vegetable growths, from the honoured oak to the scouted thistle and the

creeping ground ivy. Common as they are, they are curious, admirable, beautiful.

They are *curious* as extraneous products put forth by the powers of the plant in obedience to the requisition of an animal agent. Curious, also, are they, and wonderful as effects much more than (as appears) commensurate with the cause of their production. The awl of a tiny fly has only to pierce a leaf, a stalk, a bud, a root, and forthwith appears the semblance of a fruit, perfect in form and finish. They are *admirable* in their purpose—that of concealing and protecting the insect embryo, for insertion of which the puncture is made, and around which, as the pulp of an apple round its seeds, is wrapped the fruity substance of the gall. And *beautiful*, lastly, these singular productions are, though some (not overlooking) may have looked on them as nothing better than warts and carbuncles on the face of nature. To these, we can only say, "Go, look at them again, and closer, as they appear upon an Autumn hedge, varied and elegant in form, and coloured in harmony with the sunset season of the year."

But we must linger no longer in its ruddy glow; for it was not in the year's sunset, but in the year's

night, that we proposed to gather specimens of "still life" not unworthy contemplation.

A few wintry storms, a few December frosts, and the skeleton boughs have nothing left on them but fluttering rags. But their jewels are more lasting than their drapery. These, for the most part, are retained, though some (the leaf-galls in especial) are lying with the leaves upon the ground. The night of the year is, in short, closing in, and Winter fruits in their ruddy ripeness may be likened now to the streaks of crimson that linger in the west after departure of the sun. Nor is this darkness of the vegetable world without its stars.

What but stars are all its points of concentrated indrawn vitality? It is these as congregated (a few of them) in the "still life" objects of a Winter hedge, that we are now about to look at. In their wintry eclipse, they may seem to shine but dimly; but they will acquire brightness as we direct upon them the telescopic eye of observation.

So, we have entered now—not, it must be owned, abruptly—upon Winter. It is early (let us say in drear December), and on a day which is not dreary, we fix upon a sheltered lane for our field (path, rather) of discovery. We are hedged in on either

side by hawthorn, hazle, bramble, and briar-rose. We have been talking of Winter hedge-fruits as in some sort lingerers, but here still (who would have thought it?) are Summer hedge-flowers, which much more properly deserve the name. Some late-born blossoms of the Robert geranium are yet loitering in this shady place. Budding and blowing out of due time, they cannot boast the blooming rose-colour of departed elders of their family. They are pale, from absence of sun, and look paler from presence of their Autumn leaves deeply dyed in crimson. But flowers they are, and as such, in flowerless December, are of the fairest and the dearest. Like strains of midnight music, or like cheering thoughts that will sometimes come across us in the hour of most dark despondency, they seem sweeter and better than the brighter visitors of brighter seasons.

A few leaves are left on the trailing branches of the bramble. Some are yet green, and, though not acknowledged evergreens, will, perhaps, live on through Winter. We see a few amongst them marked on their surface by meandering lines, white, with a red suffusion on each side. These are the tracks of leaf-mining caterpillars, which, as such, have been born upon the leaf, found subsistence within it,

and flown from out it in the shape of little moths, moths which, if, instead of little, large, would be ranked for their golden splendour as kings and queens of mothdom.

Through the dropping of their green veil some other features have become visibly prominent on these bramble branches. They are features of deformity in the shape of unnatural and unsightly bulgings—round or ovate excrescences—on the square stems, from the size of a walnut to a hazel.

On cutting one open, we find it to be occupied by little orange-coloured grubs, scattered throughout its interior substance. These, in due season, will be winged insects. Now, in their wingless stage they are housed for the Winter in a habitation formed by the injured vegetable at behest of its injurer, some parent fly.

These, while embryo mischiefs in the form of eggs, must have been inserted through punctures of parental piercing in the yet green branch, and the insects will issue forth in maturity through other punctures of their own perforation. The excrescences of former seasons, grown brown and hard, are often to be seen thus bored as by an awl.

From the bramble, let us turn to a hawthorn, on

which not a leaf remains. Thus unclothed, it presents a maze of thorny branches, and, what is better, a sprinkle of farinaceous fruit, food for feathered feeders, who might turn up their bills at it in Summer, but to whom now it is as manna in the wilderness.

And what if this leafless hawthorn could show us only these, nothing but branch, and thorn, and fruit. These even were enough (knowing what is within them, and will surely come out) to make us *think, admire, adore!* These gifts of their Fatherly Creator to his feathered children—these fruits of the thorn and briar, can we look upon them now in their Winter ministration, and not remember how that in their Summer flowering they were made to minister to our delight? Yes; God, in the fervour of his love to all his creatures, is as truly present in this wintry May-bush as in the bush that shone with visible fire. A heaven without an earth were not more impossible for us than a Summer May-bush with its verdure, sweetness, purity (a heavenly emblem), without a Winter hawthorn, dark, thorny, intricate, an emblem not altogether of the world, but of the paths that cross it, leading—whither? Well, keep we to our hawthorn, which, somehow, what with looking back

and looking forward, has almost lost its wintry aspect. The hedge seems clothed again with leaves and flowers—the birds are singing round us, or busy in the branches, picking not hungrily at hips and haws, but daintily at buds and caterpillars, while the latter (greedy spoilers!) are as busy in their turn doing their best, though to little purpose, to spoil the beauty of the whole.

This in fancy; but what in reality has become of these insect-devourers of leaves? Have they all been devoured themselves by bird-devourers of the caterpillar crew? or of those permitted to complete their triple stages, has not one escaped the devourer of all?

Has Death, in his own proper person—doing his own business—put an end to theirs? and swept off with them every token that they once lived and moved, and ate, and worked, and slept, upon this their once green world, until they rose above it? So it seems. It has been with these creeping things as (except for a tombstone) it may be with the most of us.

Not a sign of life, past or present, can we discern within this labyrinth of branches, thread it as we may—up, down, in, out, backwards, forwards: stay, our eye finds rest at last. It is upon an object wherein (if we are not mistaken) a life of some

sort lies enclosed, boxed up for the Winter, like the life of the hawthorn within its bark and buds.

Not dissimilar to bark in colour, nor seemingly in texture, is the material of this (what are we to call it?) cocoon, or case, or cell, which has somehow got placed upon, and attached firmly to, one of the furcate branches of the denuded thorn. The "article," a very neat one—be it what it may—is about the length of a thimble, and would be of thimble shape, if thimbles were closed and rounded at each end. If open at one, its circumference is a trifle too small to admit the finger of any full-grown lady with whom we are acquainted.

What can be this appendage to the hawthorn, which, though so closely resembling and close-setting, seems not of it? We have called it a cocoon, but its material does not, as in the cocoon of the silk-worm, and in those of most among its fellow-weavers, consist of silk, wholly or in part. It looks more, as we have said, as if formed of bark; and on touching it, it feels as hard or harder. Supposing it of animal, i.e., insect fabrication, how was it made, and where its fabricator? The first we cannot tell, the last we cannot see; but looking round for what is not discernible, we perceive a duplicate, nay, a triplicate, of

what *is*—one, two—more of these curious cases, and one of them is open at one end, like a box or a spectacle-case, of which the lid, fastened by a hinge, is thrown backward.

It is empty, therefore reveals nothing of its origin or occupant, in whom, if detected, we should have found, doubtless, the maker of the case, either in its own or in another form.

By help of a pocket penknife it were easy, perhaps, to make the same discovery in one of the cocoons (so to call them) which have not been opened.

But supposing it occupied as we conjecture, why should we disquiet the poor sleeping mummy we might bring to light?

It could tell us nothing of the way in which it wrought its narrow house, or of the material provided for its use. Of these we shall obtain a better notion by returning for a moment to the time of leaves and leaf consumers.

At that season then, in the month of June, we might have found on this hawthorn (and on any other they may be found by any one) several creatures of the caterpillar kind, distinguishable from the common herd by the possession of curly tails, or tails

held in a coil, while they grasp with their six-clawed feet the leaves they are greedily discussing. Their hinder feet, which are clawless, are also more numerous than most of the "spinning worms," whence come moths and butterflies. Hence, and as assuming, in maturity, another form (that of a saw-fly), these are known amongst entomologists by the name of pseudo-caterpillars—counterfeits of the true.

Like the true, they are numerously distributed on various plants and trees, being as various themselves in size and colour. There are saw-flies of the elm, the willow, the currant, the rose, the turnip, and an abundance of others, with their respective larvæ; but to confine ourselves now to the species which belongs to the hawthorn, we may describe them as being, when full-grown caterpillars, large for those of saw-flies, but of size only middling as compared with caterpillars in general; smooth, of a bluish green, looking as if powdered; their heads somewhat large, round, and of an orange-brown. By these tokens, as well as by their being seen in general to cling to branch and leaf by their fore-claws, while the rest of the body is curled up into a scroll, any pryer into Summer hedges may distinguish a false caterpillar of the hawthorn saw-fly from the numerous others, false

or true, which are to be seen there picking up their living out of leaves.

But what have those green, powdery, fleshy, rambling marauders of the May-bush in its prime to do with these brown, dry, dead-looking cocoons or cases now attached to its wintry branches, with which in colour, rigidity, and absence of motion, they exactly correspond? Everything; inasmuch as they were their fabricators, and are now, in the same or another shape, their occupants. The constructive process employed in formation of these weather-proof envelopes is an "art and mystery" of their own; a manufacture for which they possess a patent which requires no protective law. Their material (as that of the silk-worm) is self-elaborated, drawn from an internal reservoir, but not, like the silk-worm's and other spinners, in a thread. How they spread and mould their raw material while yet pliable we do not know, never having seen them at work, though we have kept many for that purpose. The rogues have defeated it by working while we slept.

The rapidity of their operations is surprising. We have left over night several of these caterpillars full-fed, and roaming restlessly among the leaves with which their box was furnished. In the morning we

have only found for every creeping thing as many compact cases, resembling exactly those upon this wintry hedge, only lighter in colour and less hard in texture. Wind and weather have been assistant here to strengthen the fortifications designed to set them at defiance.

The tenants of these abiding tenements are now, beyond doubt, hibernating within them, awaiting the gentler influence of Spring to give expansion (with the opening leaves) to their four transparent wings. When arrayed in these, the forthcoming insects are likely enough to pass with the uninitiated for large brown bees, a mistake the more excusable, inasmuch as bees and saw-flies have a sort of relationship as belonging to the same insect order.

In April they will come forth—but *how?*—from these entire, strongly-wrought envelopes, hard as iron, tough as leather! If we knew not, it would be difficult to guess, only be sure we might of this, that the same protective Power which furnished material and skill for construction of these Winter asylums, would provide the means of quitting them when converted into prisons by the Spring.

It proves accordingly that their occupants are furnished with efficient tools (sharp-cutting jaws) for

cutting their way to daylight. Employing these with marvellous skill and dexterity, the first act of each saw-fly, on arriving at maturity, will be to make an incision all round its case at a little distance from one of its thimble-shaped ends, taking care to leave uncut a narrow portion of the circle, the hinge of the lid, which, on egress, it will raise and leave open. It is thus we have just found it in the empty specimen, which must have been abandoned by its occupant in the last or perhaps preceding Spring. A tangible proof this of its wondrous strength and durability; for though turned nearly black, it is perfectly uninjured, even to the narrow slip which forms the hinge.

These cases of the saw-fly are worth the trouble of cutting off and keeping till the time of April showers, if only for a chance of seeing them cut open by their egressing tenants.

The same insects are famous for their skill in another branch of carpentry, for which they are provided with another tool, a saw. To this they owe their name; and they are enabled by its help to cut grooves in branch or leaf for secure deposit of their eggs.

But enough of saw-flies and their cases, which are not, depend upon it, the only curiosities of this hawthorn cabinet.

As our eye runs exploringly over the thorny twigs, we perceive on one of them a projection which hardly wears the appearance of a natural growth. A closer view shows it to be a structure, and almost as plainly that it is (like the last) of insect fabrication. It is about half an inch in length, with three sides: two long, converging ridge-like towards each other, and at one end narrowing to a point; and one short, forming the base of the erection as it rises from its site, the surface of the branch.

It is of the same colour as the bark, as well it may be, for we find by our pocket-magnifier that bark is the material of the structure. It must have been taken from the hawthorn branch, and the builder must have prepared it for his purpose by cutting into little strap-shaped pieces. Of these, cemented or wove together, the whole fabric is composed. On one side of it is a narrow slit, through which its late builder and occupant has doubtless made his exit. To judge by comparison with resembling structures not uncommon on the oak, we may venture almost to assert that the maker and inhabitant of this forsaken tenement was the *bark-building* caterpillar of a little moth, which flew from out it on some "balmy eve" of Summer.

Have we exhausted now the curiosities of this Winter May-bush? Nay, they seem hung about it thick as Mayflowers, or as gifts upon a Christmas tree. See here, clasped in manner of a bracelet round one of the hawthorn's naked arms, are row upon row of bead-like looking eggs, set fast together, and of such a form as to fit like the key-stone of an arch: the jewels these of a mother moth,* and germs of moths to come, after the coming first of as many moth caterpillars. These will issue each from its egg in time precisely to meet and eat of the hawthorn leaflets as they issue from the bud.

We have next—and also on the thorn—a cradle. It is rocked by wintry blasts, and exposed uncurtained to wintry frosts; but is, withal, so soft and warm, as to protect uninjured the lives committed to its keeping. These are latent, as in the bracelet, within the shells of insect eggs. Their cradle is the cocoon of the moth which laid them†—a curious wingless specimen of moth maternity. As such it was her shroud, and having for this purpose served its turn, we see it converted here into a cradle-bed, just as a cast-off gown might be turned by a careful mother into a cradle coverlet.

* The Lackey. † The Vapourer.

Other objects and adaptations of different form and description, but all (like these, redolent of May to *thought*, if not to *sense*) we might yet find (if we stayed to seek them) on this wintry May-bush. But the May-bush has had for to-day enough of our attention. Lest, therefore, we move to jealousy our co-favourites of the hedge-row—the hazel and the eglantine, here mingled with the thorn in friendly union—let us bestow a look on them. They, too, doubtless have their Winter objects, things extraneous to their vegetable growth, but by relation and dependency as much belonging to them as the leaves and flowers they put forth or the fruits they bear.

First, for the eglantine or briar-rose. It is still crowned with its glowing diadem of scarlet fruit, but its jewels of insect origin, its ruddy-tinted leaf-apples, have all fallen with its leaves. But, though the leaves have rotted, the lives for whose support and protection some amongst them have been made to bring forth fruit, have not therefore been allowed to perish. The pulpy globes have hardened and shrunk into a crust around their occupants, who, thus defended, find a Winter's bed upon the ground, whence they will rise winged into the Spring or Summer air.

We see a moss-like tuft of the rose bedeguar still

attached to its branch of growth. The living assemblage of the interior is safe and warm, each individual in its cell, and all protected by the woody walls of the gall excrescence and the mossy thatch that roofs it over.

There are some amongst the branches of this eglantine which are green as in the time of roses. These younger and softer portions of the stem are encased here and there by a whitish substance, which bears some resemblance to a calcareous incrustation.

By our unaided sight we can discover nothing of its true nature or texture. Let us consult upon the subject our discerning friend in black, our pocket magnifier. Ah! it would seem now, in especial as we raise a portion with our penknife, to be composed of cottony or silky fibres. This tells us nothing certain about its origin. But what are these minute grains, black and shining, dispersed through the substance, most thickly in the part adhering to the stem?

Again we have stumbled, we suspect, upon insect eggs and their Winter covering; but of what exactly, we confess our ignorance, unless (as we surmise) they may be eggs of aphides.

Sweet eglantine! we have paid thee, for the nonce, our debt of notice, and been rewarded by this, to us, new discovery, at present only half explored.

Now, good Hazel, for a look at thee. Where are the jewels of life, if any, committed to thine arms for the winter, and designed to be fostered by thy leaves in spring. Ah! here we have them—eggs again—insect eggs beyond a doubt, and a most beautiful specimen of these beautiful productions.* They are this time without either silken bed or cotton covering, lying side by side in a row, some twenty of them on a branch, with only such protection as is afforded by

* Insect eggs are found so frequently on winter hedges, and on the trunks of leafless trees,—they are, in especial for the microscope, such curious and pretty objects—their collection is so likely, moreover, to prove the germ of a love, ever green, for pursuits that make winter green also, that we shall append here a few general notices of their form, colours, and places of deposit.

In shape the majority are oval, but many present wide and remarkable deviations from this figure. Those of many butterflies are globose, some are semi-globose, some conic, some cylindrical, lenticular, circular, and often ribbed. Others are turban-shaped, melon-shaped, pear-shaped, barrel-shaped. Some are placed on long straight foot-stalks; others on short curved ones, hence called petiolate. Some are eared, or furnished with appendages obliquely forked, to prevent their sinking too deeply in the soft substance wherein deposited. Others are crowned—surrounded, i. e., at their upper end with a circle of spines for support of the next laid egg; a row of these is not unlike a stalk of horsetailed grass. The surfaces of insect eggs, though sometimes smooth, are almost as often adorned by a variety of regularly sculptured patterns. Some display ribbings that extend from pole to pole; others, delicate filaments which show the segments of the embryo; others exhibit in relievo an assemblage of cross lines, which look like a covering of network; in others, these lines are so curved as to resemble tiles; while others, again, have

their shells and close adhesion to each other. Their form is square, their colour greyish white. They have size enough to make this obvious at a glance, and on looking closer we can see in each of them a circular depression in the middle of the upper side, and an-

their surfaces beset with knobs. In colour, there is usually less variety in the eggs of insects than in those of birds. White, yellow, and green are the prevailing hues; but amongst them are brown, grey, black, pink, and some are striped or banded. To the query, where insect eggs are to be found? we may reply—Generally on the plants, shrubs, trees, the leaves, stems, trunks of those vegetable productions on which their issue is designed to feed. Some are scattered singly; others in groups, disposed sometimes carelessly, sometimes with the greatest order and regularity, as in the hawthorn bracelet and the hazel-row above noted. Some are destitute of covering, being laid in warm weather, or made for resisting cold; others are carefully protected, in some cases with a coating of hairs, stripped (birdlike) by the mother insect from her own body. Some are embedded in manure; others inclosed in galls; others in cells built by parents or those who perform parental offices, as among social bees or wasps. All are secured to their stations by a gummy secretion.

It has been noticed as remarkable that only those butterflies and moths of which the caterpillars subsist on perennial plants hybernate as eggs or in the caterpillar form, the rest passing their winter almost invariably in the chrysalidous state. This phenomenon finds its natural cause in that the leaves of all annual plants appear later than perennial ones. The winged insect quits the cover of its chrysalis later than the caterpillar issues from the shell of the egg—and why? Because the moth or butterfly finds food only in flowers—the caterpillar only in leaves.

Was it the vital energy of creative power, undirected by wisdom, unmoved by benevolence; or was it only accident that gave rise to provisions such as these?

other at one end. They are eggs, doubtless, of a moth. To know more we must wait till spring or summer, and to know anything even then must separate them now from their foster tree, and take them home, whither the lowering sun signals us to repair. And long enough we have loitered (have we not?) beside a winter hedge to have proved it, only to the superficial gaze, a thing of barrenness.

IV.

A RUMMAGE IN THE STONE CABINET (AFTER INSECT RELICS).

"'Tis ill for man
To let the things that *have* been run to waste,
And in the unmeaning present sink the past."

C. Lamb.

All anglers know something, and all entomologists a good deal, about those aquatic grubs called by the former caddis or case-worms.

By sight they are known also—they or their cases—to a great many other people, to people who, without looking expressly after fishes or insects, have been accustomed to look curiously through the translucent veil which half exhibits, half reveals the

treasures of the fresh water deep, or shallow. Now, these are treasures, truly, to a little case-worm, when it first emerges, caseless, from the egg-shell into its watery world. A grain of sand, a minute shell, a fragment of reed, stick, straw, or leaf then serves it (a born artificer) as ready material, selected according to *specific* skill, wherewith to construct itself a habitation. We have said "construct," but the more proper phrase would have been to fortify, inasmuch as these extraneous articles, drawn together with silk and compacted by natural cement, form only a protective outwork to an inner tube spun of silk entirely.

This case is, like the shell of a snail, transportable, and its occupant, with tender body under cover, can put forth safely, shoulders, head, and claws, all defended by scale armour, to perambulate its submerged territory in search of dainties or delight, terms synonymous to a grub and to a gourmand. The breathing organs of our little aquatic are gills, which, though situate within its case, are brought in contact by the insect's motion with the aerated water, which, received at the front, is rejected at the hinder aperture of its enclosing cylinder. Some of these caddis cases wear an appearance of being wrought with

great regularity and exactness, one only of their varied materials, as shells, sticks, leaves, being employed in each. Sometimes, however, a great stone (great by comparison), appears attached to the grains of sand or minute shells which compose perhaps the main work of the fabric, or a bit of light wood, or a hollow straw is stuck in the midst of graver, heavier substances. This looks very much as if our little constructive had little eye to neatness in his work, or as if even the rough encasement of his silken tube were formed of accidental and self-adherent rather than of selected and appropriated things. It would seem, however, that where most carelessness apparently exists, most carefulness is really exhibited. The big stone has, ten to one, or one to ten, been attached for ballast, the bit of straw for buoyancy to supply the defective weight or lightness of the case to which one or other is appended. The employment of stones entirely, in preference to shells or other lighter articles, would seem adopted by the inhabitant of rapid streams to meet the unpleasant contingency of being, house and all, swept away by the current.

To conclude, after a less melancholy manner, the biography of one of these little case-makers. Like that of other insects of perfect transformation, the

history of its life is divided into three chapters—the first, an epoch of labour and feeding; the second, of outward inactivity; the third, of active enjoyment. Well, let us suppose the first of these periods, that of work and repletion, to be nearly over. Our ingenious aquatic has made its case, ate its fill, and travelled as far as behoved it for the latter most important purpose; but ere the future caddis-*fly* ceases to be a caddis-*worm*, it has one final operation to perform. It is about now to enter on a somnolent and helpless state, and that in a world full, like others, of liers-in-wait for the weak and the unwary. It is expedient, therefore, for safety as well as for seclusion, that the narrow round-house, hitherto open at both ends, should be securely closed. Now, then, comes again into requisition our caddis-worm's supply of silk. With this it spins a strong network over each end of its tubular tabernacle, and then resigns itself (how safely !) to the care and workings of nature. In the putting off of an aquatic shape, and the putting on of a form and parure suited to the air, that tender nurse and tasteful tire-woman does the rest for it, her little unconscious child protected meanwhile in the ark she taught it to construct. For its egress thence, in proper season, the same careful guardian fails not

to provide. She bestows on the object of her protection a pair of scissors, otherwise trenchant jaws, which, with the superadded gift of how to use them, enables the nascent case-fly to cut a way out through the woven grating which shut it in. When out it is, the new inhabitant of air (a sober-suited insect, with brown, semi-transparent, moth-like wings) is known almost as often by the name of *May*-fly as of *case*-fly. It bears no external likeness to the bright ephemeron (the sporter of a day) to which the latter appellation more properly belongs, but in the histories of the two is great resemblance.

Both are water-born (usually in May) of eggs committed to the water's keeping. Both pass their earlier stages in their native ponds or streamlets. Both love to haunt upon the wing the waters of their nativity, and to both, usually, these prove a grave as well as birth-place, falling, as they both most often do, into the gaping mouths of fishes.

As with house-building man, so with these case-constructing insects—"their works survive them;" and, long after the downy bodies and frail wings of their developed forms are resolved into their native elements, the late abodes of their immaturity are still existent, if in quiet water resting in their places, or if

in a stream travelling onwards with the current. In the course, however, of changing things, attrition, concussion, a thousand accidents, a thousand influences, are apt to reduce these tenantless tenements, strong as they are, to scattered fragments.

We sit beside a transparent stream, and see them the sport of all its fluctuating moods and motions. Some, dashed in their progress against grinding stones, some buried under them, some half-sunken in the bed of the torrent. Thus beholding them, can we imagine that these houses of the insect, or some of them, may continue when not a vestige will be left upon earth's surface of the now standing houses, palaces, and temples of men—of men who "think their houses will continue for ever, and call the lands after their own names"—when men, generation after generation, will have been swept away by the stream of Time, and when even man's place may be occupied by a race of higher beings, for whom this our old day world with another new-day face may constitute a fit abode. Is it possible that the tiny shells and scraps and sand-grains of one of these little worm-wrought fabrics can be holding together then?—to be disinterred, perhaps, with relics of our buildings and our bones, and to be handled, looked at, thought about,

by geologists human, or superhuman, such as may then knock for knowledge at the doors of the Stone Cabinet.

The music of the brook has surely lulled us to repose, and in a day-dream only can we be following to such a sequence the current of advancing Time. Well, if we dream, let us dream on—only let us follow backwards instead of forwards the same stream of Time, till it lands us at an epoch of the Past somewhere as distant from the Present as that in the Future to which we have been advancing.

We are wandering beside a fresh-water expanse in the primeval land of such an epoch. Water, morass, and wood are the prevailing features of the country round us, and the face they constitute is of a gloomy, vapoury character.

The forest on our right looks mournful in pine and cypress, weeps, as it nears the lake upon our left, in an increasing growth of willows, and only smiles rarely and transiently, as a sunbeam comes struggling through the mist, and kisses the head of some lofty poplar or graceful aspen, most cheerful individuals of all that woodland company, distinguished from their sombre fellows by their light and fluttering garments.

Though we know these foresters by name, they seem to wear about them somewhat of an unfamiliar air, and so do most other of the objects round us. They are like, yet not like entirely, to such as we have seen before. The ground is rich in verdure, but it is a verdure rank and flowerless, less resembling an enamelled carpet than a coarse green baize. Lofty reeds and giant flags and rushes are abundant, and these are not without their waving feathers and bestudding blossoms. Now and then, too, we catch a breath of floral fragrance wafted from afar; but the air, so damp and heated, seems laden for the most part with heavier and less agreeable odours. Once only has a bee, or something like it, passed us on the wing, and only once have we caught sight of an unknown butterfly, resting on the fringed corolla of as unknown a flag. There are swarms, though, in plenty, and to spare, of gnats or gnat-like flies, and their humming makes loud music as it mingles with the chirp of the grasshoppers which animate the ground.

Troops of wading birds are busy on the reedy margin of the lake, and the sombre forest is not altogether silent for want of bird discourse, scream, and call, and chatter; but never a note of song salutes

our ear, and now from the dark recesses of the wood we hear the hooting of an owl, though the western sky and meeting water are still ruddy with the glow of sunset.

There is a rustle in the reeds beside us, and we catch between them the sparkle of an eye, the bright eye doubtless of a water-rat; no, not exactly, only of some rat-like animal. When shall we see a creature or a thing that we are sure of having seen before? Thank Heaven, even now, for here comes at last an old acquaintance, a dear familiar friend, a dog approaches, not though to *us*. He dashes to the water's edge. In he plunges after that strange rat; but the rat is not more strange than he, that wild, wolfish-looking dog, with his savage bark and unfamiliar aspect. Now—stranger than both, strange entirely—another quadruped issues from the wood, and comes floundering and bathing in the lake. In size a horse, in shape a hog: heavy, clumsy, round-footed, long-snouted animal that it is. So we've enough truly, and to spare, of living company, and yet we feel a trifle lonely, for far or near, there is no discerning a single fellow of our kind, nor yet a single token to tell us that we are not the single man in this wide

world of wood, and swamp, and water. No guns are waking the echoes and wounding the wild-fowl in the forest; no baited lines are deceiving the fishes in the lake; though dragon-flies, strange as brilliant, have darted past us, no net of gauze is waiting to arrest them in their flight; while unmolested, alike by angler or by entomologist, case-flies innumerable are rising from the cradles of their watery birth-place to take their pleasure in the air. They are fairy case-flies, so small and delicate. Their cradles must have corresponded. Even so. Here they are, cradles or cases, to be seen in plenty near the margin of the water. Let us examine this one, deserted by its tenant. What a multitude of minute shells are compacted together on its surface! What numerous sparks of life have been here cemented up, each within its own tiny tabernacle turned into a tomb, and all to make a fortress for this little constructive, itself one of a multitude bestrewing, it is likely, the entire bottom of this wide-spread lake! . . . . But, hark! What's that rustle in the reeds—that splashing in the water? Heaven save us! It's a monstrous crocodile! It sees us! It glides towards us! It's close upon us; death and burial in its

jaws! . . . . The caddis-case falls from our fingers; our hair bristles; our heart beats; our eyes are fixed. We try to call for help, though no human help is near, is *any*where; and in terror we awake, wake from our dream of the far distant Past.

We are returned then from our long journey to the remote country that lies behind the country of man. We have alighted from our excursion train. Imagination, our locomotive, stands idle. We are at home again in this our own day world, with the dear familiar aspect it is wearing in this year of grace, and bounty, and beauty, 1853. Here we are again, and yet we have still within our sight, nay, within our fingers, the identical articles of insect fabrication, a group of caddis-cases of the year—nobody knows what—to behold which as tabernacles of life, we have just been travelling backwards, nobody knows how far. Their indwelling lives have been departed nobody knows how long; but here they are, these habitations of the worm, transferred from the waters of an antiquity beyond date to a drawer of the Stone Cabinet, hence to their place within a modern cabinet of wood. Yes; here we have, and hold them, these relics of the insect, and possess in them memorials of times which have no record but in these and resem-

bling tokens—material objects which act as springs to set the mind in motion—sending it on travels to the world's beginning, if not to the world's end; putting it on drawing inferences, painting pictures, collecting facts; all, be it hoped, in due diffidence and doubt. *Apropos* of humility and geological facts, think of this (a fact open to little disputation), that on the boasted score of ancestry, antiquity of birth, a worm of the water, a fly of the air, beats us hollow—us human upstarts, who can trace descent only up to Adam—us insects of a day in comparison with a May-fly, whose ancestors, or ancestral types, have been exhumed from the indurated mud of fathomless antiquity.

Let us refer now to the page of geology for the time when about (within some countless ages) these case-worms of ancient days lived, built, and died, where they were buried, and are at present to be found.

"In the country of Auvergne, a region of extinct volcanoes, now so fertile as to be called the Garden of France, there exist, under more recent deposits, extensive strata of limestone and calcareous marl, abounding in fresh-water shells, such as are known to inhabit lakes and rivers." Some of these beds are

described as entirely made up of the fossil cases of caddis-worms, which have been cemented together by calcareous infiltration, and form a compact stone, which is employed for building. The attached shells are so minute that more than a hundred are attached to a single case, and a cubic inch of the limestone contains ten or twelve tubes.* We have only to realise the superadded fact, that these fossil cases once occupied, in repeated strata of five and six feet thick, a plain of hundreds of square miles (the plain of the Limoges), and then form, if we can, some faint conception of the number of little animals by which they were constructed; of the number also, so many times greater, of the lesser animals made to serve, with their own tenements, the purpose of the insect-builders, employers and employed being alike inhabitants of that ancient lake, whose site is betokened by their relics.†

We do not know that any remains of case-flies in maturity have been found amongst these countless vestiges of their early labours, a circumstance that might have happened through the fall of some of

* Mantell's "Wonders of Geology."

† Scrope, "On the Geology of Central France," quoted by Dr. Mantell.

them from air into water, and subsequent entombment with the cradles of their youth. Case-flies in abundance have, however, been embalmed in amber, an earlier production of the same times (the Tertiary), to which belong the fresh-water deposits above described.

Now these times of the Tertiary—comparatively recent in the pre-Adamite history of earth—we shall leave for the present, with all other of their insect-remains, for, in this our search after them in the stone cabinet, we purpose to begin, or begin again, with its lower drawers—thence reascending, we shall meet again in the upper with our opening subjects.

Behold us then at the lowest portion of earth's crust; lowest in original formation, highest, often, in present position. Shall we grope for the objects of our search within the granite? We might as well cut open the bottom board of a cabinet of wood, with a view to discover fresh insect specimens imbedded in its substance, as seek for fossil remains of them within that basal rock of the cabinet of stone.

Shall we examine to better purpose amongst those primitive members of the rock family, sons of Father Granite, stone of his stone, pupils of fire and water, the Metamorphic? In these, bearing from scientific

sponsors such rugged names as gneiss, and protogine, and quartz, and schist, and hornblende, are we likely to discover tokens of insect existence? Hardly. For when these rigid primitives were in their unconsolidated youth, the world would seem to have been little other than a "monster" laboratory, wherein, amidst gigantic chemistries (heating and fusing, and cooling and pressing), one can hardly suppose either place or entertainment for insect or other living company. It has been thought accordingly, and said, that neither stone, nor slate, nor crystal, of those early times had ever served for entombment of organic remains; or that if they had, these had all become obliterated through fiery agency. Modern science has found eyes, however, for deciphering of another tale—a tale of vestiges of being, not that, indeed, of animals of air—insects, but of animals of water—*infusoriæ*, whose fire-proof shields or shells of silex are supposed to have been detected even in volcanic products.

Leaving these, at best but sterile primaries, we come, ascending, upon a series of our cabinet drawers (otherwise strata), in which we meet for the first time with clear and cognisable relics of things that lived and moved in a world of increasing, if not

commencing animation. In other words, we have arrived at the rocks between primary and secondary, termed transitionary, as mingling a mechanical character of their own with the chemical character of those below them. Within their slates and beds of limestone are laid up remains of organisms not a few, but they are such chiefly as belonged to plants and animals of obscure and humble rank, appropriate occupants of a world not as yet prepared or furnished for "nobles of creation." But insects, with exception of Linnæan butterflies, are not nobles. Was not that transitionary world furnished enough for them? Hardly, it would seem, or not suitably. The Flora of those old times had her gardens chiefly under sea, her parterres and shrubberies of graceful algæ being studded not with vegetable but with animal flowers, sea lilies, sea anemones and the like; while as for such gardens as she had on land, they, it would seem, were full mostly of ferns, and mare's-tails, and club mosses; flowerless productions, not now-a-days particularly or generally to the taste of insects; some, nevertheless, might have been denizens of those most ancient cryptogamia, as of the cryptogamous forests which came after them. It needs not, at all events, to be inferred that insect eyes were not

opened on the light of Transitionary days, because insect relics are not amongst the corals, crustaceans, and molluscans, which have been brought from the darkness of transitionary rocks.

But with these Transitionaries, as well as with the Primaries, we have now done, and have come upon the Secondaries — strata numerous and varied — drawers of the stone cabinet, rich indeed in "medals of creation." Some of these must surely be stamped with insect impress, or present us with insect effigies. But oh! these Secondary formations! Their comprehensiveness is fairly overwhelming even in the thought. To figure them in their strata upon strata, deposits of sea, of river, and of land! Or to view them only in their groups—carboniferous, saliferous, of the lias, of the oolite, of the Wealden, of the chalk! And then in these Titanic, time-built cemeteries, the multitudinous remains—the buried tokens of the life of buried worlds—life in forms most minute, most mighty, beautiful, horrible, wondrous, monstrous, everything almost but human! Where now amidst all these relics of "pre-Adamites" are we to look for those of pre-Adamite insects—fanners of air and creepers on earth, before earth was Edenised for man's reception? Let us renew our search which,

in orderly ascension, has brought us now to the lowest of those great Secondary groups, the carboniferous. Here, within beds of coal and shale, and sand and lime-stones, what are the fossil treasures which the labours of the miner have laid open? They present to our admiring gaze a fossil herbarium, such as for grandeur, beauty, and perfection, has no equal amongst mineralised remains of vegetable life. In these we see, and seem to see revivified, the feathery foliage which waved or drooped in the heated atmosphere of primæval and preparatory times; the times when forests, tropical in aspect, prodigious in extent, world-wide in distribution, were rearing their lofty heads and shedding their leaves upon the ground, all in "sign of worship," all in obedience to Him who bade them flourish and bade them perish for supply of world-wide coal-cellars, of which the key was destined to be ours. Those grand old forests, so solitary, so silent, in absence seemingly of bird, and beast, and man, harbouring at the utmost some monstrous toad-like reptiles, would seem almost too grand and solemn for insect occupancy—for the presence, at all events, of such common little creepers and buzzers as now crawl or flit across our paths. Such "minims of creation"

could never surely have been its magnates, in absence nearly of other terrestrials—"monarchs of" the little "all," each of them was able to "survey" of the grand all that stretched around them. But yet, when one comes to think of it, plants and insects are of such intimate relation, so made each for the other, that one can hardly suppose a world of vegetables without a world of insects in its umbrageous bosom. There being such great vegetables (those tropical growths of the carboniferous ages), the insects, if insects there were, by which they were frequented, must surely have been great also, of tropical size, or even of bulk sufficient—

"With helmet heads and giant scales adorned"—

to have realized the poet's fancy; in all, at least, save the "unpeopling of earth," admitting them to have had that nearly to themselves already.

Seriously, we might suppose that insect shapes of gigantic magnitude, proportioned to vegetable forms of gigantic growth, were likely to have fed upon the foliage and lurked in the recesses of those tree-like mosses, ferns, and mare's-tails, (to say nothing of the fewer palms, coniferæ, and cycadeæ), which composed the forests of the coal. We may conclude, at all

events, that insects, mighty or minute, certainly existed in those ancient times, but is it to be equally expected that they should have left behind them any existent vestiges of their transient being?

Is it probable that we may find in the carbonaceous repository pieces even of beetle armour? remnants even of ephemeral gauze? Nothing more likely, inasmuch as laid up within the same receptacle are remains innumerable, not only of arboraceous forms, in substance much less enduring than insect mail, but also of herbaceous expansions as delicate and softer than an insect's wing.

Thus much for speculation on the probable—but how proves it on inspection of the real? Why that together with remains of other animals, chiefly marine, tenants once of the waters which submerged those ancient forests, a few have been discovered of their insect frequenters—of the *first insects*, as far as we know of, which made their appearance upon earth.

How antique truly, how curious and precious, must be these pre-Adamite sires of the insect race, whether presented to us in petrified perfection, or only as fragments of their former creeping or flying selves. But where, in the name of wonder, are we

to discover such marvellous relics of the coal-composing forests? Have we ever met with, or are we likely to find them in our coal-scuttles? Hardly. In the interior of massive coal-blocks, whether in coal-scuttle or in mine? Nay, in those it is likely we should seek them to as little purpose.

We may look till our eyes ache into a fragment of the "best Wall's-end," and look vainly for the vegetable forms, or even vegetable tissues of those primæval growths to which it owes its substance. They are quite obliterate in that bituminous mass. Or take even a coal of stonier description, Welsh perhaps, or of bordering extraction. In this, most likely, are cells and vessels, and pellicles and fibres, that tell where once was wood and once was leaf; but these, nevertheless, we may fail to discover, unless the mass be sliced and magnified for exhibition of its structure. Neither in this are we likely to discern an insect specimen.

But suppose our descent effected through the shaft of a coal-mine. By the light of a miner's "Davy" we look enquiringly into the dark shining faces of the giant blocks which wall its galleries, but their faces are blank as regard the objects of our search.

We perhaps even look vainly for a single specimen

of those wondrous and graceful relics of the vegetation of a departed world, of which descriptions have so charmed us in the reading. Ah! we exclaim, those geologists, those subterranean explorers, must surely, like travellers of superficial sort, be greatly given to romancing!

We shrug our shoulders, cast upwards a look of disappointment, hardly brightened by a smile incredulous, and stand amazed, admiring, ashamed for disbelief!

The roof of our coal-pit gallery is of slaty clay, but recently laid open to the lamp-light, and there, embossed on its surface, and distinguished further from the grounding rock by coaly blackness, we behold indeed "a canopy of gorgeous tapestry," a mingled tissue of "scaly stems, bending branches, delicate foliage," which want nothing but the hues of life to make them look as if the very life was in them!*

But, in all this display of vegetable forms, arrested and stamped with perpetuity in their steps of growth, we still look in vain for their supposed insect frequenters, in like manner stayed and perpetuated in their stages of existence. Nothing of the sort is to be seen. Yet, from all that we have heard or read

* See Buckland, "Bridgewater Treatise."

(and here Nature's own hand-writing, or hand-painting on the wall bids us to believe), such objects are likely to be not far off. Let us resume our search, and where these foliaceous ornaments are in less profusion, look closer into another compartment of our slate-clay roof. It is inlaid, we see, with ribs of ironstone, and studded here and there with knobs of the same material. These knobs or nodules may contain something worth the trouble of breaking a few off, and breaking into them, putting them to the question of the hammer. Click! click! One flies open, and reveals its long-hid treasure, a fossil crab, or something like one Click! There goes another, and displays a cone-like fruit. Courage! We shall come at last, perhaps, on an insect. Click! click! Nothing here. Another; not a thing! But patience! Click, click, click! Bravo! At last we have it! Here is—yes—here *is* an insect—an insect body boxed up in this iron coffin ever since—— Pshaw! we were going to say the days of Noah! Out upon us for our old-world, new world prepossessions!

Well, and what may this patriarchal insect be? It would seem none other, nothing better than a cómmon cock-roach. Not a very counterpart of modern "kitchen beetles;" but very like them, as like, per-

haps, as was Noah or Noah's wife to the cook or kitchen-maid of modern times.

Now this imaginary picture of things in a coal-mine is but a grouping of objects really to be found in one department or another of the carboniferous magazine. Insects, the first discovered, if not the first progenitors of the insect race, are occasionally met with, as well as fossil fruits, leaves, shells, and crustaceans, enclosed within the nodules of iron-stone so common with layers of the same, and vegetable relics, in the coal-field strata—usually in the slate or shale which form the roofs of seams of coal in course of excavation. Cockroaches and locusts, supposed to have been the first of insects, would seem to have left the greatest number of remains. These iron-stone mausoleums are tenanted, however, by insect dead of higher rank, and (while living) of more brilliant pretension, by none other than by members of the family *Cerculio*,* related to those insect Esterhazys, the diamond beetles of Brazil. Of these, several species have been found in the iron-stone nodules of Coalbrook Dale, and in one of the like receptacles the wing of a large neuropterous insect, closely resembling a species of living corydalis of Carolina, was discovered

* That of Weevils.

by Dr. Mantell.* The Danby coal-pits, Yorkshire, have likewise furnished specimens of beetle elytra or wing cases, and we read of a fossil scorpion brought to the light of these our days by the happy splitting of a block of coal-shale in Bohemia.†

On the whole, however, insects would seem to have been but few in the carboniferous epoch; not at all proportioned in numbers or in size to the luxurious vegetation of the same period. A correspondence, nevertheless, betwixt insect and vegetable life, as they then existed, is observable, and has been thus noticed by Professor Heer:—"The most ancient forests, composed of tree ferns, club mosses, and equisetæ (the first of plants), were inhabited by locustæ and blattæ (locusts and cockroaches), the first of insects—and of these (orthopteræ) we know at present of only six species belonging to those most ancient times, in which, indeed, insects seem to have been extremely scarce; nor need we wonder, if we consider that at present, also, our lycopodiæ and equisetæ (ferns, mare's-tails, and mosses) harbour no insects, and the filices very few. The hosts of insects, therefore, that live on

* See "Medals of Creation," v. ii. 575.

† Figured and described in Dr. Buckland's "Bridgewater Treatise."

flowers and their honey, fruits and seeds, could not at that time have been in existence, the vegetable world being then destitute of flowers and fruits."* This latter observation must be taken with reserve, remains of a few flowering trees having been found already with those of the flowerless majority, to say nothing of such as may be yet exhûmed. Our acquaintance with the clothing of the carboniferous earth would seem, nevertheless, quite sufficient to account for the rarity or absence of associate insects, such as feed on flowers and fruits, and the abundance, comparatively, of such as feed on leaves. In those times of foliaceous abundance, leaf-devouring locusts and leaf or wood-consuming beetles, must have banqueted in clover, while these, living or dead, must have furnished meat "to the appetite's content" of carnivorous or omnivorous cockroaches and other preyers on their kind.

We must bid adieu now to the carboniferous forests, with their appropriate insects. And for all their magnificent remains, and for all the living magnificence in which imagination can thence depict them, who can issue from their gloomy, watery, silent recesses without comparing them, and oh! how much to their disfavour! with the dear green glades and

* "On the History of Fossil Insects," by Professor Heer.

their insect frequenters of our own dear times and our own dear land?

How, amidst the stately gloom, and waving monotony of pines, tree ferns, mosses, and mare's-tails, which would have over-topped our oaks of ages, should we miss the sweet and varied enrichments of our flowering trees and flowering shrubs, and the flowery ground beneath them, serving all to "paint" our woods as well as "meadows with delight!" And how, too, should we miss the "vocal wings" of the humming-bee, the noon-day flight of the woodland butterfly, the evening flitting of the woodland moth, with a thousand other insect presences which, quarrel with them as we may, afford us for the most part pleasant company! Yes, we should miss them sadly, our flowers and our flower-frequenters! Then let us prize them duly, and, thinking of the bloomless, unripened Flora of these grand old feathery times, pay double homage to the blooming, full-formed Flora of our own—worship rather to our kind Creator, who has so adorned and so enlivened this, his finished world, for us, his favoured, but ah! his graceless creatures!

Now, which drawers of the Stone Cabinet—which layers of the stratified crust shall we rummage next

for records of insect history? We have ascended from the carboniferous to the saliferous formations, and behold us at the new red sandstone, with its many-coloured marls, its salt and gypsum.

Let us see the prevailing character of the fossil miscellanea laid up and laid open in these repositories, inclusive of the uppermost, that triple group, yclept the Trias. These treasures have been for the most part "treasures of the deep," such as fish of the sea and flowers of the sea, zoophyte lilies, holding in their stony cups no honeyed wine, and offering no insect harbourage. But of what sort of country and of what inhabitants tell the terrestrial relics of the coeval land? They describe a country still warm, and watery, and sombre in its clothing of yews and dark coniferæ. And as for its inhabitants, they tell in particular of creatures very notable, to our notions very horrible, withal "very good," very suitable to the then hot, steamy, marshy fecundity of mother earth. By the tokens of their bones and the tokens of their "footsteps on the sands of time," is recorded the appearance in those days, the first, as it would seem, of reptiles, of those great frog-like reptiles termed batrachians, the van of a reptilian army which was coming to take undisputed possession of

the soil, and share with former tenants possession of the sea. But we are looking for remains, not of reptiles, but of insects, and what have they to do with one another? Perhaps something, since reptiles and insects are now-a-days rather intimately connected in the way of swallowing and being swallowed: witness basking lizard on the watch for basking butterfly, or lurking toad on the look-out for lurking spider.

Supposing, therefore, the gigantic labyrinthodonts of the Triassic times to have had a correspondent taste with their degenerate representatives of the modern world, we might reasonably expect that contemporary insects, numerous and perhaps of bulk proportioned, would have lived and died for their regalement. But suppositions are not facts, and though the first of insect families, such as those of cockroach and of locust, had their lives continued through the Trias, they might not have figured in the bills of batrachian fare—nor did they, that we know of, exceed in magnitude their ancestors of the coal.

Let us pursue our search. We are still in those prodigious Secondaries, but, the Trias left behind, we have now ascended to the lias, a marine group of

clays, shales, and limestones. With this, the lias, we shall take leave to associate the formation next above it, known as the Jurassic; perhaps better as the oolite, from the egg-shaped bodies of various sizes, of which its limestone is principally composed; marine themselves, these deposits abound chiefly in marine remains, but associate with these are terrestrial relics, transports of rivers and currents into contemporaneous seas.

Now, before looking closely into these varied débris for the peculiar objects of our search, we must needs take a brief and wondering, perhaps a shuddering survey of the times of their accumulation, the times of the lias and the oolite under their most remarkable and striking aspect.

Let us glance at them as among periods pre-eminent of the "age of reptiles," that age terrible to picture, when their cold-blooded legions were actually come to overspread the world, and lay their bones within its sepulchres, to tell us (us, lords of creation) that we are only their successors in the heritance of earth, holding lordship less absolute and universal than was theirs, over land and sea, and lake and river. Then did those strange "fish lizards," ichthyosaurians and plesiosaurians, such as are now grinning

harmless, in their dry bones from out glass cases, cleave the liassic oceans with their dripping paddles, filling their waters with death and terror.

Then, too, was the terrestrial reign of those "fearfully great lizards" of the land, megalosaurians and the like, crocodilians and their mailed compeers, spreading carnage upon earth and in fresh water, as their marine contemporaries in the seas. With the latter, as separate altogether by habitat and habits from our insect subjects, and with the former as doubtfully, if at all connected, we have little to do here, except, as we look back upon, to bless our stars that their days and ours did not come together!

There is, however, another family of contemporary reptiles, much less great and fearful than the above, and much more linked with the little animals of our immediate notice. Associate with insects in life (truly not in a loving or a lovely bond), as preyers and preyed upon, in death they are not divided, the remains of destroyers and destroyed being commonly, yet remarkably, found associate in the same vaults of the great stone cemetery, the same drawers of the stone cabinet.

Flying dragons had their day in a world of reality long (oh! *how* long!) before they lived in fable, and

this is their picture as figured from their bones, and drawn by the pen of a distinguished geologist.*

The flying or wing-fingered creatures, called pterodactyles, are "unquestionably," says he, "the most marvellous even of the wonderful beings which the relics of the age of reptiles have enabled the palæontologist to reconstruct, and place before us in their natural forms and appearance. With a head and length of neck resembling those of a bird, the wings of a bat, and the body and tail of an ordinary mammalian, these creatures present an anomaly of structure as unlike their fossil contemporaries as is the duck-billed platypus, or ornithorhynchus, of Australia, to existing animals. The skull is small, with very long beaks, which extend like those of the crocodile, and are furnished with upwards of sixty sharp pointed teeth; the orbit is very large, rendering it probable that the animals were nocturnal, like other insectivora (feeders on insects). The fore-finger is immensely elongated for the support of a membranous expansion, as in the bat (and the impression of the wing membrane is preserved on the stone in some examples), and the fingers terminated, as in that animal, by long curved claws.

* Mantell, "Wonders of Geology," v. ii. 762.

The size and form of the foot, leg, and thigh, show that the pterodactyles were capable of perching on trees, and of standing firmly on the ground, when, with its wings folded, it might walk or hop like a bird."

The size of the pterodactyle varies, in the eight or nine species discovered, from the bulk of a snipe to that of a cormorant. By the help of the long hooks projecting from its wings, it had the power of climbing trees, together with that of suspension from them. From the length of its neck and the strength of its jaws, it has been conjectured that fish captured after the manner of our present sea-birds, might have formed a portion of its prey; though this, there is little doubt, consisted principally of flying insects visible to its great orbed eyes by night as well as day.

Very perfect examples of pterodactyles have been found associate with the remains of dragon-flies and other insects, in the lithographic stone of Pappenheim and Solenhofer, and in England their bones have been obtained from the strata of Tilgate Forest, the lias of Lyme Regis, and the oolitic slate of Stonesfield.*

Now, this oolitic slate forms a very note-worthy

* "Med. Creation," vol. ii. 763.

leaf in the stone book of geological history, inasmuch as it contains the earliest notice of mammalian existence. Some scattered little jaw-bones, entirely apart from all that once belonged to them, fleshless, tongueless, but not toothless, sufficed to give full assurance to the speller and reader, as well as putter together, of osseous fragments, that certain small quadrupeds of a higher order than the great dominant reptiles,—that is, of the highest, did in those oolitic times set their four feet upon the earth. These little quadrupeds are pronounced further (all by the evidence of their jaws) to have been marsupial (like the modern opossum) and insectivorous, like the anteater and hedgehog. The relics of these insect-preyers would have pretty well sufficed, of themselves, to have attested the contemporaneous existence of insect prey, had not a single vestige of the latter ever been discovered. But it is far otherwise, for in this very same Stonesfield slate appears a quantity of detached wing-cases of beetles (*buprestidæ*)—not a scrap of them beside, save a leg only of a solitary weevil (*cerculio*).

Besides these, numerous are the remains, and of a description more entire, laid up within the oolitic, but especially within the liassic rocks; all serving to

prove indubitably that insect feeders of the correspondent periods had ample store of live provisions.

We have seen how dragon-flies were entombed with flying dragons (*pterodactyles*), and they would seem, some of them, those dragon-flies of old, to have been of a goodly size—big enough, when shorn even of their nervous wings, to have furnished a tolerable mouthful to a dragon of even cormorantish bulk.

A wing of such a dragon-fly—one which glittered once in a liassic sun (now a fossil gem for perfect preservation), is described as larger by a third than any British species.

Through researches of indefatigable seekers a rich and rare array of fossil insects, which lived at the same period, have been transported to the cabinets of the curious from the cabinet of stone, in especial from a band of the lower lias which has been termed insect limestone.

In scientific volumes* these are to be found enumerated, described, and figured. Suffice it to mention here, that besides the dragon-flies and

* See especially "History of all Fossil Insects in the Secondary Remains," by the Rev. P. B. Brodie. Also, Dr. Buckland's "Bridgewater Treatise;" and "Fossil Insects of the Secondary Formations of Britain," by Mr. Strickland. "British Association Reports for 1845." Mantell's "Medals of Creation," vol. ii., from 570 to 584.

beetles above noticed, and in addition to the cockroaches, crickets, and locusts, whose primogenitors were noticed in "the coal," appear flies, ants, termites, and numerous beaked insects, cicadæ, and bugs of water (*Nepidæ*) and of land (*Cimicidæ*).

Now, these are common names, but were the creatures to which we have appended them (all when in life destitute of names at all) of common aspect? One would hardly expect it—hardly believe it—be almost disappointed so to find it, after having been filling our thoughts with images (not ideal) of coexistent monstrosities; monstrous toads, monstrous in shape as size—"fearfully great lizards," saurians of the swamp, such as would have made a morsel of a modern crocodile; saurians of the sea, reptilians stranger than seer of sea snakes, mermen, and mermaids ever yet described; gigantic, wingless birds, to which the albatross, or Sindbad's roc, would seem as wrens; and flying dragons, such as, before their bones were disinterred, must surely have visited, in dreams, the inventors of fairy tale and fable.

Having our heads, we say, full as a fairy tale—a Christmas pantomime—a German opera—of shapes of strangeness, would it not seem strange, too, that insects not strange at all, insects hardly distinguishable from such as are now to be seen somewhere

every Summer's day, should have been fellows of those strange animals in a world of common occupancy? Yet so it would seem to have actually been. A celebrated entomologist* has pronounced of the relics from the "insect limestone of the lias, that their forms resemble those of ordinary occurrence and of a temperate climate, more, however, like that of North America than Europe. The remains of plants associate with those of insects denote a similar temperature." Whether both were drifted from afar, or whether they are estuarine deposits formed under such conditions of climate as their forms would indicate, is a matter of scientific doubt, as yet an unsolved enigma of the earth, a puzzle not rendered less perplexing by the proximity of these terrestrial relics to marine ones of a warmer latitude.

Amongst the vegetable remains of these formations are some of recent discovery, both of non-flowering and flowering plants. Of the latter, ONE seed serves to indicate the existence of the umbelliferous tribe; a bit of jointed stalk, of some other exalted member of the vegetable kingdom.† A

* Westwood.

† "On some Fossil Plants from the Lower Lias," by Professor James Buckman.—*Quarterly Journal of Geological Society*, March, 1850.

single seed! a single bit of stalk! so singularly preserved to attest the antiquity, incalculable, inconceivable, of their so ancient families. Amongst the Secondaries still, we come next upon that assemblage of clays, limestones, sand, and sandstones, termed the Wealden. A formation this, rich in terrestrial and fresh-water remains, pronounced to have been deposits of a vast estuary or delta. These relics betoken a flora consisting of cone-bearing trees, cypresses, ferns, and cycadeous plants, with a corresponding fauna of fresh-water fish, crustaceans, mollusks, *wading-birds*, and turtles; with last, not least (for the age of reptiles was still in its fearful prime), enormous saurians or dinosaurians, whose forms (a mighty resurrection of dry bones) have been recalled by the magician, Science, from their beds of indurated clay.

Amongst these monsters of the *marais*, mailed lords of those ancient marshes, figures conspicuously the iguanodon, a creature of appalling magnitude, only, as of herbivorous appetite, less dreadful than its carnivorous compeers.

Amidst or above this reptilian phalanx the pterodactyles, or flying dragons, still occupy a place, and, as might hence have been expected, relics of insects,

their conjectured food, have been discovered not distant from their own.* Cockroaches and crickets are, as in earlier times, predominant; associate with dragon-flies, diamond beetles, frog-hoppers, and aphides. Of these, the dragon-flies are somewhat dragon-like in size; but, in general, these insects of the Wealden, like those of the oolite and the lias, are small, and considered, like them, as natives of a temperate clime.

At length we have arrived in our upward progress at the last—the most recent of these numerous Secondaries—that formation so familiar as the cretaceous, or the chalk.

What find we in these beds of limestone and associate substances, once the bed of the vast chalk ocean, now so frequently the cap of our breezy downs, and the facing of the white cliffs which look down upon the oceans of our time? The uplifted treasures of this upheaved depositary are chiefly, like its origin, marine; comprising remains of sea plants, animals, and animal flowers.

These, curious and beautiful for variety of form, are marvellous for variety of magnitude, presenting

* "On Remains of Insects in the Wealden," by the Rev. P. B. Brodie.—*Geological Proceedings,* vol. iii.

us with relics of gradationary bulk, from bones of mighty saurians of the sea to microscopic shells of ocean animalculæ, such as often serve in their multitude to make up the very substance of limestone blocks and beds.

Amongst these gems antique of the great chalk sea, tokens are not wanting of co-existent continents or islands, shown by their remains to have afforded support to pines, palms, dragon-trees, tree-like lilies, and cycadeous plants, confervæ and naides, inhabiting their fresh waters.

Chief frequenters of the land were reptiles still, some of them rivalling in bulk their contemporaries of the sea. Pterodactyles, or flying-dragons, still haunted the shores after fishy spoil, or the forests after insect prey, of which the presence is attested by insect remains. Amongst the latter we may re-enumerate members of the most ancient families of cockroach, cricket, dragon-fly, and beetle; with termites, aphides, many of the gnat-like, but none of the flower-sipping flies; and *neither bees nor butterflies*,* which, be it observed, had yet (to all appearance) to make their *début* on a more ornamented stage of earth.

* See "History of Fossil Insects," by Professor Heer.—*Quarterly Journal of Geological Society*, March, 1850.

Yes; the sombre scenes of the sombre Secondaries were without bees, without butterflies; but now, thank goodness! (the goodness imparted to progressive earth), we are come upon the dawning of a brighter day. We have left the Secondaries behind, and have reached the Tertiaries, the epochs bordering on our own; when the watery, weeping earth began to dry her face in smiling earnest, and dress and adorn herself anew for our reception.

The fossil records of these Tertiary formations tell accordingly tales beautiful and wonderful of the times of their deposit; times of looking up and looking on; when water receded before land, fierce reptiles before gentler quadrupeds, flying dragons before flying birds, gloomy pines and giant ferns before our favourites of the forest, flowerless plants before the flowering, to bring in therewith the advent of the bee and butterfly, heralds and harbingers, with their vocal wings and painted banners, of the advent of—monkey and of—man.

Now these pleasant changes, like most of the changes of regenerating Nature, were brought about, we may safely say, by slow degrees, though the rate and number of the steps which wrought them mock our reckoning.

In speaking of Tertiaries, we had in mind the three successive periods, oldest, middle, newest (*eocene*, *miocene*, *pliocene*), into which the Tertiary has been divided, as into three stages of growing assimilation, betwixt the world and its productions as they *were*, to the world and its productions as they *are*.

But now to the drawers of our cabinet; those upper drawers to which we have at length attained. We have left the chalk, then, and are amongst the Tertiary formations, an assemblage of marine and fresh-water deposits (clays, sandstones, limestones, marls, &c.), which occupy, in general, hollows or basins in the former surface. Very rich are these receptacles; richer than all that have gone before in organic treasures; fossil tokens of increased number and diversity in vegetable products and animal forms, as earth acquired aptitude for their support. These were, for the most part, of species now extinct, though of generally growing resemblance to such as clothe and inhabit the world we live in. As for our earth under its Tertiary aspects, that in especial of its oldest or earliest period, it would seem to have been a world still consisting chiefly of water, wood, and swamp; still a world somewhat lachrymose and dull; yet a hazy morning,

but brightening more and more unto the perfect day of man. The forests would seem to have still waved darkly in pine, cypress, yew, and juniper; but their gloomy monotony was being gradually broken by the introduction of more cheerful wood-mates—strangers then, now our beloved familiars—poplars, willows, elms, oaks, beeches; while those venerable antiques, ferns, mosses, mare's-tails, abating by degrees of their high pretensions, yielded to these newcomers the rank of forest nobles, and became content at last to embrace their trunks, or carpet the ground beneath them.

And what were the living denizens by whom these brightening forests, with the looking-up lands subjacent, were inhabited? These were becoming more and more a mixed multitude. Their tribes—those even which have left their records in their tombs—who can number? We, at least, must not attempt it. Suffice it for our purpose to take a look, *en passant*, at some two or three leaders among types of the Tertiary; some remarkable as differing widely from the animal patterns of our day or climate, others almost as remarkable for their resemblance to the same.

Reptiles, great and small, were yet abundant; but the age of reptile supremacy was gone by, replaced

by the dynasty of mammalian quadrupeds. This commenced with a line of mild and mighty potentates, whose bloodless reigns were to precede the reigns of terror of feline and wolfish tyrants.

First came the times of tapirs. Then did anoplotherium, palæotherium, dinotherium (giant monarch of gigantic pachyderms) roam in the forests, splash in the marshes, bathe in the lakes and streams—in forests and marshes where now, perhaps, roll our seas and run our rivers; lakes and streams in whose ancient beds our cities and our houses are now, perhaps, dryly and snugly seated.

Then came the time, too (but it was in the last of the Tripartite tertiary), of that animal anomaly—anomaly of anomalies—*erium* of eriums—the megatherium, whose form in its exhumed bones is yet existent, and which lives still in its vivid picture by the graphic Buckland. Yes, in that and its glass-case* (a restored skeleton), has been seen by thousands, and may be seen still, that "Behemoth of the Pampas," that monster, armour-coated, giant-thighed, yard-long footed, lengthy-clawed, compound of sloth, anteater, and armadillo, which "could neither run, leap, climb, nor burrow," which was yet able, by root-

* In the Hunterian Museum.

digging, to pick out a comfortable living in the forests of its time, and which, safe in its strength and panoply of bone, could have only died seemingly when the day was come for its natural extinction as an individual or a race.*

These and others of the company of animals which composed the *dramatis personæ* of the Tertiary stages, have long ago made their final exits from the theatre of creation, while some are now playing their parts, through modern representatives, amidst scenery of old-world character in the worlds (American and Australian) which we call the new.

But, besides the above, many of the four-footed actors whose figures and performances are at present most familiar, made their (supposed) first appearance on those triple stages of the Tertiary. Of these, the wolf, the fox, the squirrel, and the dormouse, prowled, and hid, and leaped, and slumbered in the forests of the eocene, while in the periods following (miocene and pliocene), elephants and other existing pachyderms, cats large as lions, and other carnivori, then gentle ruminants, ox, deer, and camel, gave token of an increasing aptitude in mother earth for the dry-nursing of entirely terrestrial children.

* Described by Dr. Buckland in "Bridgewater Treatise."

In the Tertiaries, too, was the great advent of birds. Their first, indeed, bears *dateless* date from the coming of those great, "fearfully great," wingless bipeds, which, as well as frightfully great reptile quadrupeds, have "left their footprints on the sands of time." But in the Tertiary was the first acknowledged arrival (as recorded by their bones) of a winged host of our familiar fowl. Buzzard, owl, woodcock, curlew, quail, and sea-lark are numbered amongst the birds of the eocene; and in measure as Nature's board was heaped higher for their regalement, new guests in garb of feathers, as in other costume, came flocking in to share her bounty.

But it is time now to inquire something about the new comers in garb of insect—coat of mail, robe of down, drapery of gauze; who, in proportion to the increased abundance of their own appropriate viands, arrived to fill their respective places at the same hospitable table.

Two of the most distinguished strangers, bee and butterfly, have been already noticed; but of what consisted the other additions to insect company which came with the times of the Tertiary, or dropped in as they advanced? The inquiry can only be answered,

like all our questionings about the inhabitants of buried worlds, by reference to the drawers of our stone cabinet.

What find we of insect appertainment in that at which we have arrived? We find a multitude of insect bodies embalmed, as if for our inspection, in vegetable crystal; we find, in other words, a quantity of insects encased in amber, a production of the eocene or earliest period of that tertiary epoch under view. Amber, as all the world now knows or supposes, is a fossilised resin, which once exuded after the manner of copal and other gums from its producing tree, an extinct species of pine. It is most abundantly found on the Prussian coast in Pomerania, either as washed up by the sea in detached masses, or as imbedded in submarine strata of lignite or brown coal, as well as itself a mineralised product of pine forests. Other more fragmentary but less altered relics of the same woods were laid up, like their insects, within their amber, and serve to indicate that their piniferous shades were variegated already by oaks and beeches, with other of our Sylvan favourites. The once living occupants of the vegetable crystal are supposed to have found themselves arrested by the gummy branches of the pines on

which they had alighted only to take rest, a flow of the liquid resin serving then to consummate their fate. If enveloped suddenly, the victims were left by death perfect as in life, their delicate forms, and even colours, unimpaired; if slowly, with marks of dissolution and decay, such as sometimes give a mouldy aspect to their remains, and a dull one to their otherwise transparent tombs.

Let us see now of what consist, in general, these "insects of a day" thus struck into "medals of creation." They afford specimens of most, if not of all, existing orders and genera, and present, says a noted German entomologist,* "a conformity with existing forms, even an identity in some species." "In amber insects I have rarely," says the same author, "found a new or very dissimilar form. I am also of opinion, with earlier observers, that they are not those belonging to our latitudes, though some agree perfectly therewith."

Their numbers are considerable, consisting almost entirely of members of such families as live in woods and trees. That most ancient of insect orders, the *Orthoptera*, exhibits numerous amber-pent individuals — cockroaches, crickets, grasshoppers, and

* Dr. Burmeister in "Manual of Entomology."

locusts, descended from those which frequented the forests of the coal.

The *Neuroptera* (an ancient order also) is well represented, by dragon-flies and termites, many; by lace-wing and ephemeral flies, a few.

Coleoptera abound; the beetles most abundant being still, as in previous times, vegetable feeders,* the carnivorous being as yet but few.

An abounding presence of *Diptera* in the amber forests is attested by the innumerable two-winged flies which amber has preserved. Amongst them are bombylii, with a few other frequenters of flowers. tipulæ, or crane-flies, a scattered few; gnats without number.

Beautiful cicadæ, or tree-hoppers, bugs of land and water, cocci and aphides, are among those of the *Hemiptera* which were overwhelmed by gum-spouts from the amber pines.

Of the *Trichoptera* are case-flies in abundance, sharers of their fate.

Of the *Hymenoptera*, most numerous of all, are ancient representatives of that industrious family, the family of ant. Ichneumons are few; bees few and small—Burmeister had seen but one—but one

* Cerculionidæ and Chrysomelidæ.

would suffice as well as a hundred to mark the cheerful epoch of bee birth!

Last, not least, come tokens of the lovely *Lepidoptera*. Yes, in the times of amber, butterfly as well as bee had come upon the earth—the brilliant butterfly and her sober-suited sister, moth; for amongst amber gems (of the rarest and the choicest) are numbered several caterpillars, a large sphinx, and a few butterflies!

But it is not only, or even chiefly, in amber that insect specimens of the Tertiary periods have been preserved. They have been encased as securely, if less elegantly, in beds of calcareous marl, Tertiary formations of more recent date than those which contain relics of the amber forests. The quarries of Aix, in Provence, are celebrated repositories for fossil insects.* Of these, nearly seventy genera, besides spiders, have been enumerated, some of them presenting a remarkable identity with species existent in the surrounding country. The two localities of Radoboj and Œningen, on the banks of the Rhine, near Constance, are also very fertile fields of fossil entomology. There have been collected from them examples

* Described and figured in a Memoir "On the Freshwater Formation of Aix, in Provence," by Mr. Lyell and Sir R. Murchison, in *Jameson's Edinburgh Journal*, 1829. "List of Insects of Aix," by Marcellede Serres.

of all the seven insect orders, only differing widely in numerical proportions from those which now prevail. Altogether, the species are very numerous, nearly quadrupling, it is said, the number of those discovered in all the preceding geological periods. Those of imperfect transformation are more abundant amongst them than those which undergo the perfect or triple change; and even in the marls of the pliocene, or newest of the Tertiary periods, the recent types of bee and butterfly have not been found of frequent repetition.

Speaking of the few Tertiary butterflies which have been brought to the light of this our day, "It is remarkable," says Professor Heer, "that two species resemble such as are now native to the East Indies, while one is comparable with our thistle butterfly (qy. painted lady?) and another with our gras-sack-tragen." "Only in the existing creation," observes the same naturalist, "have butterflies been developed in their full richness of form and colour; and this may be the better understood, inasmuch as in the Tertiary period the land was almost entirely occupied by forests, and offered but few herbaceous plants with flowers from which butterflies and bees could derive nourishment.

For the same reason gnat-like flies, haunters of damp places, often also of aquatic birth, would seem to have abounded in that woody and still watery world, while the brethren of their two-winged order, which love to bask in sunshine and feed on fruits and honey, were but few. Of these gnat-like flies of the Tertiary, many are of such as live, while larvæ, in fleshy fungi, a fact which attests as plainly that fungi grew within the forests of the tapir, the mastodon, and megatherium, as if mushrooms from their ancient woodlands had been preserved for countless ages, together with their inhabitants, (insects of a day,) to tell for themselves the tale of their existence of an hour.

Cicadæ, or tree-hoppers, are conspicuous amongst the insects of Œningen for beauty—dragon-flies* for number, their aquatic larvæ being amongst the most common of these fossil forms. It has been noticed that no gad-flies have been found amongst them, and hence conjectured that these and the like parasitic pests of warm-blooded animals belong only to modern times. If these insect tapsters existed at all in the days of those ponderous pachyderms, we may perhaps suppose as fairly that their tapping apparatus must

* Libellulæ.

have been, together with themselves, upon rather a gigantic scale—for how else could they have drawn the red wine from out the barrel bodies of their thick-skinned victims?

Amongst contemporary beetles, the buprestidæ (large and handsome, like their tropic representatives of modern days) held, as in times more ancient, a place of prominence.

Abundant, also, as their foliaceous food, were locusts: and abundant and remarkable for size were termites; but more abundant than them all were *Ants*. Other families of their order (Hymenoptera) seemed comparatively few. Bees few, because of the fewness of flowers. Ichneumons few, because of the fewness of butterflies and moths, ichneumon victims.

Be it noticed, by the way, of parasitic insects, that though ichneumon parasites would seem to have been thus rare, and gad-fly parasites not at all, the parasitic system would seem, nevertheless, to have arrived at a complicated degree of atrocity even in those times of the Tertiary, long before man, or the Devil, had brought it to perfection; for, amongst the fossil remains we are now looking over, are those of certain little parasites—preyers upon other parasites—ancient

representatives of a modern genus* of insects, which pierce and deposit eggs in the larvæ of those ichneumons which do the same by the bodies of devoted caterpillars.†

To return to *Ants*, and the astonishing abundance of these little labourers in the Tertiary periods. While there are now only about forty species in all Europe, nearly a hundred have been discovered in the amber and the marl—some of existent genera. At Radoboj, stones have been found completely covered with them —half-a-dozen species upon one slab, as if they had just grouped themselves together for the convenience of the future entomologist.

These fossil ants have elicited some interesting observations‡—deductions of importance from very trifling yet significant particulars. The following are among them. Nearly all these insects are winged—male or female—a fact thus accounted for. It was only while disporting in the air that they could have fallen thence into the water, incurring thus a fate escaped by the steady, creeping, hard-working labourers of their generation. The presence, in the

* Hemiteles.

† See "History of Fossil Insects," by Professor Heer.—*Quarterly Journal of Geological Society*, March, 1850.

‡ By Professor Heer, "On Fossil Ants."

entombed individuals, of their wings, which in ants fall off almost at a touch, proves further, that their covering up in mud must have been much more sudden than would be the like catastrophe in our lakes or ponds. The process of separation, hastened by immersion, must else have occurred beforehand.

Several genera of the ant family, great and powerful destructives, confined now to tropical climates, have been found in the grand insect and especially formic mausoleums of Œningen and Radoboj. The larger number of these long-buried individuals belong, however, to our more familiar formiculæ, and afford numerous examples of its two divisions, dwellers in trees and dwellers and builders on the ground. Of these, one species (*F. Thetis*) is supposed to have occupied the cypresses of the ancient forests of Œningen, as its modern prototype (*F. Herculanea*), the firs of modern Europe; while another would seem to have raised its populated mounds after the plan of that well-known sylvan architect, the great wood ant (*F. Rufer*) of our times and country.

These busy builders of remote antiquity—ants of all sorts and sizes—would seem, in fact, to have teemed about as abundantly on the Tertiary dry land as did May or caddis-flies (while yet creeping

case-makers) in the fresh waters of the same epoch, and in its Summer air when become idlers upon wing.

Of the multiplicity of these latter in and about the lakes of ancient time, our reader need hardly be reminded. If so, let him refresh his notion (such as he can form) of their inconceivable numbers by reference to a former page, that descriptive of limestone of Auvergne, little other than an aggregate of compacted caddis-cases.

We have now come round, or more properly come up, to our commencing subject. Of these, therefore, we shall take leave, and the same (with a few general observations) of all the insects of the stone cabinet.

Some people, to whom these little perishable things, petrified into permanency, may have become only now objects of curiosity, may desire to know in what state of preservation they are usually found. The answer is, in *all* states, from fragmentary relics to unimpaired entireness, and from colourless forms, or even mere impressions of forms, to such as have retained the hue and perfect finish which belonged to them in life. This is most often the case with those enclosed in amber. The marl-imbedded insects

of Aix are spoken of * as having, in general, retained their horny integument, but with exchange of their once respective colours for a uniform brown or black. We learn, however, from another and no less dependable authority,† that some of them "appear as fresh as if enveloped yesterday. . . . . In some specimens the claws are visible, and the sculpture, and even a degree of local colouring, are preserved. The nerves of the wings in the Diptera, and the pubescence on the head, are distinctly seen."

In a small spider from the same locality are seen the papillæ of the spinning organs, as protruded by pressure; while in a relic far more ancient—a fossil scorpion—found in a bed of carbonized leaves, within a tomb of coal-shale, "the head and eyes, one of the jaws with teeth, and a portion of the skin, remain; the horny covering still elastic and transparent."

Among the "Medals of Creation" is also described and figured a beautiful dragon-fly, from the lithographic limestone of Solenhofen, in which the neuroses of the wings are admirably preserved. The same with the wing of an unique neuropterous insect discovered by Dr. Mantell, in a nodule of ironstone from Coalbrook Dale.

* By Dr. Burmeister. † Dr. Mantell.

It might naturally be expected that of all insect remains, the enamelled plate armour of the mailed beetle would be found to have best retained its pristine polish; but it would not seem to have so proved. It is otherwise, at all events, with the numerous pieces of wing-armour laid up in the repository of the Stonesfield slate, for in these the lustrous metallic colouring of the buprestidan mail has been rusted by the hand of time, or of chemical change, into "a reddish brown, with a finely granulated surface."*

Amongst the most precious gems of insect preservation is a buprestes from Japan, converted into chalcedony, even to the antennæ and portions of the legs.†

Many of the insect vestiges at Œningen are mere impressions, but other of their remains are admirably perfect, and exhibit the successive stages of larva, pupa, and imago. The pupa of a dragon-fly retains its mask!

We see then that there is no want of clearness in the insect type of the stone volume. Whether printed in what we may call "black letter," or in brown, it gives an accurate notion of what insects were before

* "Medals of Creation," vol. ii. 579.

† Described by Dr. Buckland.

man was, and we hence find them to have borne, on the whole, a great resemblance to the insects that *are*, now man *is*.

In surveying rapidly the scenes of dateless antiquity which have seemed, through partial handling of their relics, to rise around us, in their vast oceans, their expansive lakes, their numerous rivers, their prevailing swamps, and as prevailing forests; amidst their gigantic vegetation, amongst their monstrous animals "fearfully great," or fearfully strange; we appear, in truth, to have met with nothing so much like in their looks, as well as names, to the things of our present world as the insect inhabitants of worlds extinguished but not obliterated. There are exceptions, however, to this prevailing rule of resemblance betwixt the little articulates of primæval and of modern times. Amongst fossil insects only of the Tertiary we are told * of termites—some, indeed, like those now building in Brazil, but mostly of a distinct and peculiar aspect; of gigantic wasps (fossorial), of water beetles (hydrophili), gigantic too, and of shape remarkable, unmatched by any living species; and of bees (new types of their time), singularly different from any now known.

* By Heer.

This divergence from the forms of living prototypes, or approach towards them, has been considered (with insects as well as other animals) as dependent in degree on the epoch of creation, each type commencing with peculiar forms most foreign to those now existent. In support of this theory are instanced the mammalia of the Tertiary, and its fish; the former, then new types, being very different from those that now walk the earth; the latter (representatives of types much more ancient) resembling nearly those that now fill the waters. This rule, however, if rule it be, would seem only to hold good with one of the two Tertiary types of insects supposed new—the bee and butterfly; for if the few bees of that time were singularly different, the few butterflies of the same would appear to have been singularly like our own.

Be this as it may, if some amongst the most ancient of fossil insects—carboniferous cockroaches, for instance, or carboniferous crickets—could issue living from their iron coffins in the coal-measures to take the places of their modern representatives on kitchen floor or hearth, few people enough, perhaps, would start at them as apparitions from another world; and none, perhaps, but a scientific eye would discern a shade of difference, excepting, perhaps, in

magnitude, betwixt the dragon-flies that chase the butterflies of our summer days, and the dragon-flies of the oolite or the lias of days when butterflies were *not*, and when reptile dragons *were*, to pursue on wings of leather the insect dragons upon wings of gauze.

The order in which insects would appear to have succeeded one another on the stages of earth has been considered to support the theory of progressive advancement—a regular succession, that is, of higher or more complex forms to the lower or more simple, from the commencement of organic life to its state at present.

Pages like these, so limited and so avowedly superficial, are no paper fields for attack or defence of those idols of their advancers—*theories*. Perhaps it is not for us even to question whether any theories based on geological data are at present strong enough to stand firmly—so firmly as to do becoming battle with each other. We would only mention the remark that as regards insects and plants those "stubborn" forces, facts, would seem by no means all arrayed on the side of progressive advancement.

Plants of the lower and non-flowering division formed evidently the main tissue of earth's earliest

clothing, but neither was her garb destitute even then of floral gems; witness the flowering palms of carboniferous ages, with the ericaceæ and umbelliferous plants (as betokened by *that single seed*) of the lower lias, while, as for insects—dragon-flies, and beetles, creatures of high organism and the last, of perfect transformation, though not the earliest, would seem to have been among the earliest to appear.

We must really take leave now of our insect ancients, but not without a farewell bow of deference due to the prodigious antiquity of their dateless origin; nay, it becomes us on the like account to pay our measure of respect to their descendants of our time.

Who that calls to mind his ancient ancestry can fail to look upon the glass-winged dragon-fly as a most illustrious as well as lustrous destroyer? And can we longer regard with contempt the cockroach (alias "kitchen beetle") when we bethink us of the fathomless depths whence sprung his family-tree?—the tree of Blatta—pre-Adamite Adam of the insect race—occupier of a garden, flowerless or flowery, to him, no doubt, an Eden, when kitchen-stuff was not, and when beetle-traps and beetle-wafers were useful articles of a future dim or invisible in the perspective of countless ages!

And thou, fireside familiar—cricket of the hearth, (chosen type of our beloved self!)—thou also art sprung of a family coeval almost, if not completely, with that of the insect Adam. Thy chirp was doubtless audible (though sure it must have lacked of cheeriness!) when hearths were not, except in the stone repository, or in unconsolidated atoms; materials of future quarries, when fires were not, except in earth's central furnace, or in the fiery volcano, illumining the nightly darkness, which not one light of man's invention (from torch of pine to lamp of argand) had ever yet been kindled to dispel. Acheta! we need not blush at assumption of thy name, for what, we say, is the family of earth or air (the families of water are beneath our notice) which may be for antiquity above a match to thine? That, perchance, of Blatta only. Truly, Acheta, it were scarce, in thee, presumption, if from some Winter cell in lordly fireplace thou wert to laugh to scorn the pride of poker—surmounted, may be, by a lordly coronet. Nay, we might even pardon thee if thou wert tempted in thy Summer song to indulge thee in a merry jibe at basking butterfly; for he, verily, as compared with thee, is but an insect of a day!—a showy upstart, who, for all his blazonry—for all the quarterings of his gor-

geous banners—is but descended from a stuck-up family only less recent by a single epoch than the family of man!

V.

THE TWO ELM TREES.

A TALE FOR BIRDS'-NESTERS.

"You used me so
As that ungentle gull, the cuckoo's bird
Useth the sparrow." *King Henry IV.*

THERE are no two individuals in the country parish of Hazlewood more remarkable, or more remarkably contrasted, than two centenarian, perhaps millenarian, elm trees, which stand (though one only may be said to flourish) in that rural locality. Contrasts as they furnish, they have yet their points of resemblance besides that of common elmhood. The trunks of both are of enormous circumference though of mode-

rate height, being truncated at top, pollard fashion, and both are cavernously hollow through the inroads of decay. One of these vegetable giants stands in the centre of a wood at about a mile's distance from the village, and is a solitary of most forbidding aspect—so, at least, the trees in its neighbourhood would seem to think, standing as they do, one and all—the tender in youth, the sturdy in prime, and the green in old age—in a circle far aloof, leaving it alone in its cold rigidity—brown, bare, and blasted. On the branches which compose its scanty, irregular head is a patch only here and there of sickly verdure, just to indicate the presence of life, in its last stage of lingering decay.

That elm is, in short, a sylvan portrait of stern, unsocial, unloved, unloving age. The wild flowers, and even the mossy turf, have retreated from its vicinity to embrace in tenderness the feet of other and more congenial members of the forest family; and not alone do these, the little children of the woodland (inclusive of the familiar daisy), seem to regard with awe, and keep at a respectful distance from their great gaunt old neighbour; but hardly less do the children of the village, little and big, young and old, keep aloof from its solitary neighbourhood, for

certain reasons, or for certain notions with which reason has not much to do. These latter (call them which we will) are founded on a singular incident (to be related in due course) which has given to this tree the name of "Old Dry-bones"—a popular appellation not adapted certainly to increase its popularity, although one to which every year improves its title.

A character opposite altogether to that of this forbidding solitary of the wood has been acquired by its brother elm of the village. As fine and flourishing a tree of its years and kind as any in the country, it stands metaphorically as well as bodily in the heart of the hamlet, where it is the love and pride of young and old.

It is true that not even the hollow "Dry-bones" has less of heart than this its fellow centenarian. This is certainly no reason with a *tree*, although a very good one with a *man*, for time having passed so lightly over it. Stoutly, however, does it stand, and green and cheerful is its aspect in spite, if not because, of its hollow-heartedness, and of all the moving changes of which, in its life of centuries, it must have been a witness.

There is nothing, indeed, of a sensitive or sentimental character exhibited by this leafy sire of the

village; it has the air only of a good-humoured hospitable old fellow, ready to shelter under his green canopy, or even receive within his wooden walls, all unprovided travellers, glad of a retreat from sunshine or from storm. Enough this to win the passing love of strangers; and as for neighbours, the spreading roots of that old tree are not more firmly imbedded in the ground than itself, root and trunk, branch and leaf, in their reverence and regard. With the aged it is the only thing about them that looks exactly as it did when they were young. How can they help loving it? or the young, to whom it is associate with more than half their present happiness? To climb into its umbrageous head—to crawl up and down the broad sloping platform of its knobby spreading root, worn shining and slippery by their little hands and knees—to squeeze in and out through its hole of entrance—makes up a prodigious portion of their Summer days' delight. And then does the old village elm look most of all like a hale, hearty, kind old man in his green old age, with grandchildren climbing up his knee or nestling in his bosom. A popular name attaches to this social tree, as well as to its solitary brother, "Dry-bones." It has been long known as "Old Heavy-top," from

the thickness, probably, of its spreading crown. "Heavy-top" wears not, however, the least appearance of being top-heavy—an air wholly counteracted by the extensive area of its visible root.

By the roadside, under the shadow of this old pollard, under its very boughs, stands a thatched wooden cottage, which we may call old too, though the tree might laugh at the appellation. The tenement looks as old, however, as tenement of boards and straw can well be. As with cottages in general of ancient English build, its upper projects beyond its lower story, and is supported on a row of strong rough wooden brackets. Over this, projecting again, comes the deep roof of straw. The front casements are but three, and these, as if afraid to show themselves, nestle, one (the lower and larger) close to the door-side—two (the higher and lesser) up into the roof, where they are almost hidden in the thickness of the thatch. To complete the outline of this humble building as it at present stands, we may add that it has hardly a right line left about it. The wooden walls are out of the perpendicular; their boarding out of the horizontal; and as for colouring, it presents a compound of all discolorations; green is, however, the prevailing tint—green mould bespreading door

and window-frame—green moss and house-leek besprinkling the roof; but then these greens are varied, mellowed, and enriched by a thousand mingled hues. Did we call them *discolorations?*—these broideries on a veil of nature's weaving—one of those curiously wrought veils which she loves to throw in tenderness over the unsightly traces of decay.

This habitation is now tenantless, its last occupants having deserted it, perhaps just in time, for a low brick-built dwelling, on which, in its decrepitude, the wooden fabric seems glad to lean. The door of the old cottage is opposite the entrance into the old tree; the latter, raised on its rooty platform, standing highest of the two. The footpath runs between, and the road is bounded on the other side by the paling of the churchyard. Glimpses of green graves and white headstones are visible from the little casements, which twinkle, now obscurely, once brightly, from under their heavy brow of thatch; but the church itself is almost intercepted by the branching head of "Heavy-top."

There lived in this humble abode, when it was comparatively new, a widow, named Dorcas Parsons. Her calling and vocation are nearly described by saying that she was, for many years, the useful woman

of the village—nay, of the parish. She was, in other words, one of those important personages whose ministrations (these in especial on occasions of life and death) are, according to their spirit and mode of exercise, as those of angels or of demons.

Now, a petticoated demon Dorcas certainly was *not*. We believe, on the contrary, that she was as much of an angel as ever compounded caudle or walked the earth in pattens—a better one, at all events, than the heartless wooden cherub, now grown grey, and green, and yellow, which hovers, hawk-like, over her remains. These have been deposited just within the churchyard paling, and still within the shadow of the old elm tree, under which, in the straw-roofed cottage, she had lived and died. Before Mistress Parsons found repose in this quiet resting-place, her cares and burthens, which had never, since her days of merry maidenhood, been very light, had waxed remarkably heavy.

After having helped so many in the taking up or the laying down of their respective loads of life, she had latterly, poor soul! found it no easy matter to support her own, with certain superadded weights. Through the early death of an only daughter, a grandson, an idiot, also deaf and dumb, had been

thrown upon her care. From the time that he became her mute companion, she had kept herself and kept the child upon a parish dole of one-and-sixpence weekly, the profits of a little trade in threads, tapes, and lollipops, and the precarious proceeds of her services as nurse. This bravely and cheerfully she had done, and was doing still, when one night she was called upon all in a grand hurry to do something besides that she had never dreamt of. On that night, the March lion, though about to depart, was in the ascendant. He roared in the gusty fury of a north-east wind, and shook the foam from his mouth in driving showers of sleet and snow. So ill a wind on the eve of April Fool day was something in itself rather remarkable; and it was made further memorable in the village of Hazlewood by what it brought—to some, losses, such as of tiles, chimney-pots, and the like; to our widow of the elm-tree cottage a gain, not consequently a good. Dame Dorcas had put up the shutters of her lower casement, and would have been in bed but for the uproarious wind, and but for the possessing thought that, *because* it blew, and snowed, and sleeted, somebody would be sure to send for her assistance, either in the leaving or the entering on this stormy world. "It always

happened so! besides that old Master Smith was very bad, and young Mrs. Hodge very near." So, when the embers of her wood fire had died and turned white, she went up-stairs, laid out in readiness her cloak and bonnet, and sat by the bedside of her idiot boy. There he lay in tranquil slumber, but hardly more quiet and serene than he was accustomed to be in the happy fatuity of his waking hours. His fair full face always looked better asleep and in bed than at any other time, because then his eyelids concealed the vacancy of his large blue eyes, and the bed-clothes the disproportion of his head and body. A smile, *not* of vacant expression, was on his countenance; and as his loving protectress sat and looked at him, a sigh raised her neckerchief of yellow print. "If he'd only" (whispered she) "but look as sensible when he's not asleep!" And then—"Oh! dearie me! How he reminds me now of her that's dead and gone!"

Regrets and reflections such as these were suddenly interrupted by the voice of the storm and the voices that it raised. The little house rocked, and the little casements rattled, and the rain and hail came pattering, not so much against the windows, for they were protected by the great elm, as upon the spreading head

of "Heavy-top" itself. Under this pitiless infliction its branches kept knocking violently on the cottage roof, as if asking on the present occasion for a return of the shelter they were accustomed to afford. In the midst of all this pattering, and rattling, and roaring, Dame Dorcas fancied that she heard, together with the knocking on the house-top, another knocking at the house-door—a voice, also, of wailing and moaning, which was neither the voice of the wind nor the voice of the old elm smarting under its fury. The listener's thoughts reverted directly to "old Master Smith" and "young Mrs. Hodge." She was going to question the supposed messenger of one or other from the window, when she bethought herself that if she opened the casement it would fly out of her hand, or fly to pieces in it; and that, as for speaking or hearing, she would only be talking and listening to the wind. So, shading the candle with her apron, she crept downstairs and to the house-door. As she applied her ear to its side crevice—for keyhole there was none—the latch was moved impatiently, and the knocking repeated from without. "Who are you? What do you want? Is Master Smith took worse? Is Mrs. Hodge took ill?" were the responding queries from within. The latch was again shaken, and a something unin-

telligible was uttered in a feeble, entreating voice—the voice, for certain, of some weakly creature in distress—*that*, in a momentary lull of the storm, there was no mistaking.

We have hinted already at a touch of the angelic in the composition of Dorcas Parsons—at all events, there was something about her of the next-coming quality, the womanly; so the voice of distress, though it gave utterance to no distinguishable word, and was almost drowned in the Babel of the elements, found its way through the closed door, the nightcapped ear, and down to the widow's very heart. A silly creature Dorcas was, undoubtedly—that was proved by the event. She had only just sufficient prudence to set down her candle out of the way of the wind before she opened the door. When it was opened, the becloaked figure of a female tottered for a moment betwixt the darkness without and the light within; then, as if too weak to stand at all before the blast that followed her, fell forward on the threshold. Of what occurred afterwards we are but imperfectly informed. Suffice it, that before the conclusion of that blusterous night, a first breath had been drawn under the rocking boughs of old "Heavy-top," under the moss, and the house-leek, and the thatch of the elm-tree cottage. That event has no record in the register of

Hazlewood parish; but the part played in it, and under its results, by Dorcas Parsons, is almost sure to be entered on a page (a very fair one) of the register on high.

If thus it be, it can never be said of the worthy Dorcas and that ill wind that it did not blow her any good. Nevertheless, incalculable was the mundane mischief which befell her through the evil gift it brought her. The mysterious advent of her new nurse-child was, doubtless, explained in some way by herself—in a hundred other ways by her neighbours. Through none of these versions, not even her own, did she gain what she really merited in the way of good opinion; while from other connected causes, she lost what was much more substantial than opinion, good or bad. With this additional burthen on her hands at home, what could she continue to do or make abroad? Herein daft Harry, her little grandson, had been hitherto of little hindrance. If her services were needed by day, she could leave him in his happy harmlessness alone, or with a neighbour, who was never loth to heed or have him. If she were wanted by night, night and sleep shielded him from harm. To make up for what she was fain to relinquish, the widow enlarged a little on her trading speculations, added a few groceries to her sweets, a

few calicoes to her threads and tapes; but customers did not increase in proportion to her stock. The village dress-maker (Miss Cribb) insinuated that to pay for such a "fine set up," a whole halfpenny had been put on a piece of tape, and a whole farthing on a ball of cotton. "Besides," said the cunning fashioner of gowns and gossip, "that child wasn't took in for nothing; or if it was, and Mrs. Parsons could keep two brats out of her own pocket, it was mighty fine for her!"

* * * * *

We shall now take a story-teller's licence, and, leaping over ten years, alight where we were, locally, at their beginning. Here stands old "Heavy-top," not a day older to all appearance than when we left him. His heart may have got more hollow, but his head is full and green as ever. Green is beginning to mottle the thatch of the elm cottage, and grey more than to mottle the once brown hair of Dorcas Parsons. Her dumb grandson, the son of her departed daughter, and, for all his dumbness, the son of her heart, has grown but little in stature, and hardly more, as it would seem, in wisdom, but the half-score years which at their beginning found, and at their end have left, "daft Harry" in a state of infancy, have brought to com-

parative maturity the infant gift wafted into the lap of Dorcas by that stormy wind of March. If the sparrow have cause to thank the cuckoo for deposit of a stranger egg in her domestic circle—if the mason mother bee owe a debt of gratitude to the mother ichneumon for introduction to her nest of a parasitic fry to consume her stores, and eat up her offspring—then with equal reason might Dorcas Parsons have acknowledged obligation to that evil wind for what it brought her; and truly not unlike a cuckoo was that brown, dark-eyed, sturdy urchin who, however he came into the widow's hands, was not to be speedily taken off them. Early did he begin to play his cuckoo pranks, to peck pertly at the gentle breast that brooded him, to chirp domineeringly over the poor mute sparrow in whose nest he had usurped a place. He exhibited, besides, another most cuckoo-like propensity, a passion (seemingly born with him) for nest-appropriation, to be developed with his growth of muscle into birds'-*nesting*. While yet a baby, those large dark eyes of his were for ever turned upwards. So indeed are very often the eyes of common specimens of infant humanity; and hence, perhaps, have infant aspirations been supposed to reach sometimes to the moon. But the

moon of our hero's infantile ambition was in a lower sphere; it was neither encrusted by volcanic mountains, nor composed of "green cheese," only of a parcel of brown sticks; at least it was affirmed by the worthy Dorcas that the first thing he ever cried for was a rook's nest—a newly built one, on the top of a churchyard elm, opposite her cottage. The rogue could climb as soon or sooner than he could walk, and to climb up trees seemed as natural to him as to a squirrel, only that it was to pull down nests instead of nuts.

Of *where* the nest of every bird was to be found he seemed to have also an intuitive knowledge. Work she "never so wisely," not a feathered mother could escape his searching eye. The "sight-eluding" cell of the tiny wren did not elude *him*. Vainly for him might she suspend a curtain for concealment of her nursery. The magpie's *chevaux-de-frise* of thorns was no fortification against his determined will and unshrinking fingers. Other enemies might the wily titmouse hiss away from the house in the wall where she hid her little ones, but vainly might she simulate the serpent's voice for him who was endowed with the serpent's cunning. In only one place of refuge was she secure from his rapacious hand. This was

when she happened to choose for her infant asylum a cavity, not in a wall, but in a tree, for to the *hollow* of a tree the daring depredator of feathered households evinced a peculiar and strange antipathy. From introducing his arm, much more his body, into one of these vegetable caverns, he seemed to shrink with horror. That repugnance to the interior of trees might (like his love of climbing them for birds' nests) have been born with him, but the probability is that it was derived, like most antipathies, from an early impression. Dorcas Parsons, whose educational capabilities (none perhaps of the strongest) had been severely tried by the young cuckoo of her nest, her son of the March wind, had been accustomed to call in, in aid of tongue, if not of rod, the assistance of the old elm, "Heavy-top." With a ponderous chair, sometimes a piece of board, set up before the hole of entrance, its spacious cavity had been often made to serve the purpose of a dark closet—and never did dark closet do its work of infant *terrification* to better or to worser purpose. The wild, daring, obstinate urchin, who would have laughed at the birch, cowered at the elm, and would leave its damp, rugged recess trembling, though tearless; silenced, though not subdued.

The ever busy Dorcas had derived equal assistance from old "Heavy-top," though after another manner, in her maternal guardianship of "daft Harry." Throughout the course of his never-ending infancy that tree had been to him what his tongue, had it been endowed with speech, could hardly have adequately told. It was by turns his play-room, his palace, his hermitage — the last most frequently. Hour after hour would he occupy its interior, seated on the earthen floor—his eyes most often downcast to the same. Sometimes, however, they were uplifted towards a skylight aperture, whence he could look upon a joyous group of leaves, laughing in the sun, or dancing in the breeze ; and sometimes, idly busy, he would employ himself, chalk in hand, in scrawling devices, shapeless, and, to all appearance, meaningless as his own silent fancies, on the wooden walls of the vegetable rotunda—carved already by decay. These were his harmless practices when alone, and with no eye upon him but that of Dorcas—lifted often from her bit of needlework—as she sat at the cottage window, or the door—so handy, both of them, for keeping a look-out on the open portal of the tree.

But it was not always thus alone with his imprisoned spirit that dumb, "daft Harry" made the

hollow elm his lodge of occupation. Although by nature for loneliness constructed, he was sometimes the centre—ay, and the merry one, of a merry circle. This was when a ring of laughing boys, and romping girls, would dance around and around old "Heavy-top," while Harry, seated within, as monarch of their revels, would smilingly look out, as if in pleased acceptance of their noisy homage. The most, indeed, of the village children seemed to entertain a sort of deference, as well as liking, for the one among them who was not *of* them. They loved to make him little offerings of their best, and did their best to please and propitiate the harmless creature, who often, when the oldest, was the greatest child in their assemblies. It is true there were a few exceptions to this general rule of kindliness. Amongst the brutal and the careless, even the idiot boy might be said to have foes, as well as friends, in the little world about him—with which it was so little he could have to do. But surely the helpless and the witless one was not without a friend at home—in the active, daring, cunning brother that the wind had brought him. It has been said already, that the chirping cuckoo came betimes to lord it over the mute sparrow. Nevertheless, the young cuckoo (Japhet, "Gipsy Japhet," as

he was called commonly) *did* sometimes befriend, after a fashion, his elder, but weaker nest-mate. If a jibe or a jeer, a box or a blow, were aimed at witless Harry, by other tongue, or other hand than his, woe (from him) and peril to the tongue or hand that aimed them.

This was known to Dorcas Parsons, and hence she consoled herself with the thought, that, though Japhet committed a multitude of sins, he possessed, at least, a single virtue, the which (poor good-natured soul!) she tried her hardest to stretch into a cloak so big as to cover the whole of his offences. But that birds-nesting boy was, in truth, the plague and torment of her life. He was for ever breaking through all her feeble efforts at restraint—breaking her windows, as well as other people's, to get at the clay-built sheds of swallows—breaking into plantations and pleasure-grounds for objects innumerable of his darling pastime; in particular, to pull down golden wren's nests from the pinnacles of silver firs—breaking the Sabbath, to the breaking of feathered hearts of all descriptions—breaking from school—breaking his braces—breaking through, at knee and elbow, the trousers and the jackets, which Dorcas was, for ever, trying to keep entire. Through these, and the like enormities, he was, for ever, tor-

menting, and getting the good woman into hot water; but though he was the thorn in her side, the bitter in her cup, the consumer of her hard-earned substance, in fine, let us repeat, the cuckoo of her nest, yet she could forgive him all, bear with him, almost love him because, as she thought, he was kind to poor "daft Harry." Let us see, for ourselves, to what extent this kindness was displayed.

It is again the 31st of March—the tenth anniversary of that eve of April, made memorable to Dorcas Parsons by the visitation it brought and the onerous legacy it left her. As such, it is "Gipsy Japhet's" birthday—no day of jubilee, God wot! to her who from his birth had tended him; but, for all that, it is to be kept—for it is a part of that good woman's religion, to say nothing of her profession, that birthdays should be chronicled. She happens herself to have had, in the morning, a call from home; but she has made a cake for the boys, and Japhet is to stay at home from school, for once, by permission, instead of, as usual, on French leave; and Harry (under his protection, for at any rate he is good to Harry) is to go out into the woods and gather pussy willow catkins, and lamb's-tails, and primroses, and wood-anemones, and (the remainder is Japhet's own completion to the prospectus for the

day)—and it is to be a grand match of birds-nesting—all the crack nesters are to be of the party—he that can take the greatest number is to be king of the day (crowned king), and Japhet means of course to be himself the wearer of the crown.

It is a bright Spring morning, bright and mild; March has prepared himself to meet April, and the village children (the girls in their best, because of the cake, the boys in their worst, because of the birds-nesting) are trooping to the tree of tryst, old "Heavy-top," to meet there "daft Harry" and dark Japhet, their bold, clever, imperious, unbeloved leader—their leader in every mischief he chose to lead in, though most commonly in that which was to be the sport in hand.

While the group is growing round the door of the thatched cottage, let us penetrate its interior, and see how the hero of the day is preparing for the day's performance.

Our peep behind the scenes is into a little back-room (parlour and kitchen), shining with neatness and the morning sun. Its only occupants are the two boys and a tame caged linnet, Harry's favourite bird, the only spared captive of all Japhet's nesting spoils, hardly spared, at hard entreaty; for Japhet,

after the manner of many other heroes, loved to destroy for destroying's sake. Harry, seated in his wooden chair, is being laden for the nonce with the trappings of royalty, for, according to programme, he is to wear the crown in abeyance till fate or prowess should determine its possessor. An old blue gown of Dorcas Parsons' supplying the royal purple, robes his weak and shrunken extremities ; an old white tippet, studded with rook's feathers, serves as substitute for ermine, and a fantastic crown of plaited straw is even now being placed upon his head by the hand of his dresser, whose dark eye sparkles with something other and less pleasing than mere childish glee, as he surveys with satisfaction the now nearly completed puppet of *his* dressing-up.

But the poor mute puppet looks not so complacent. The straw circlet, made for the maker's self, is small for the large circumference of its present wearer's head, and presses on the narrow projecting forehead, most prominent of all his flat features. He raises his weak white hand to push back the irksome diadem, and at the involuntary gesture the hand of his tire-man, strong and brown, is raised, too, and falls (is it possible ?) in a blow on the cheek of helpless royalty. The stroke is followed by a deep flush, hiding the

score of fingers, on the fair pale face, a convulsive twitch of the underhung mouth, a twinkle of the large blue eye, then all again is passive as a waxen image. The crown is replaced, and the weak white hand is not raised again to remove its pressure. King Harry is now in truth diverted from the burthen of his crown. His attention is attracted to his pet linnet, who, ever since the blow dealt his master, has never ceased chirping and endeavouring with all its little might to burst its bars, as if wanting to fly to his support.

As we look round the little apartment, we see, amongst other pendants on its whitewashed walls, a bit of glazed and glaring royalty—a coloured print of one of the Henrys or Edwards.

This would seem to have served as a pattern for the mock regalia of the puppet king, for the king-maker has ever and anon been casting his eyes towards the make-believe portrait. He proceeds now to invest his image with the collar, formed not unskilfully of row upon row of many-coloured birds'-eggs; then places in one hand the ball and cross (a carved turnip with a wooden superfix), in the other a wooden sceptre; and behold the automaton complete!

The cottage Warwick has yet, however, to secure

(as best he may) his cottage Harry on the throne. With this intent he passes a stout waistband round the royal robe, under the ermine tippet, and fastens it to the back of the wooden chair. With a look of triumph, Japhet then dashes to the besieged door, and returns presently with four stout boys to be the royal bearers, also two stout poles on which to hoist, secure, and carry the throne and its occupant. On the first attempt to lift him a sound, expressive of terror, issues from poor Harry's lips. A look from his young keeper checks its repetition, but not its echo, a note of alarm from the tame linnet, who, as its master is borne off, tries to follow, and, as he looks back, looks eagerly after him with its bead-like eye. But what signifies the alarm of two such helpless, speechless creatures, to the headstrong, noisy young animals who are lords over them? So away they go, and a deafening shout greets the appearance of the king at the cottage-door. The king, too (poor puppet!) presently forgets his terror, forgets his bird, and smiles graciously on his assembled subjects. "Now, march forwards to the wood!" cries Japhet, but the royal bearers linger, for the king is pointing towards old "Heavy-top," and making signs significant that it is his royal pleasure to hold his first court

within that wooden palace of his pleasaunce. "Carry him up! up with him! Set him in the tree! We'll have a dance all round him!" cry a multitude of childish voices. "No, no; on to the wood!" shouts Japhet, in a tone of anger and command: but his command is set at nought; the king is obeyed (strange phenomenon!) before the king-maker, and Harry, in despite of his imperious Warwick, is enthroned, throne and all, in the old elm, his subjects dancing, singing, shouting round him, and he (his troubles and his terrors all forgotten) dancing on his throne with glee to see them.

Dark Japhet looked his darkest. His scowl would have withered anything except the spring buds and the spring-time joy about him. That he saw he could not wither, so, not to witness it, he went back into the cottage. Lest, perhaps, in spite of himself, he should look out at the front window, he returned to the little back room, and there stood the evil-hearted boy biting his lips as he heard the merriment without. At the first sound of his footsteps Harry's linnet began, as it always did, to flutter, and now, as he was standing before the cage, it beat itself against the wires as madly as if glared on by a cat. The boy looked up for a moment angrily, then his frown re-

laxed into a smile that looked a hundred times more ominous. Smiling still, he reached down the cage—took out the bird—its wings fluttering—heart beating—and presently—smiling all the while—returned it to its *late* abode—its wings motionless—its little heart at rest for ever.

Then Japhet returned to his company. King Harry, and his subjects too, had had enough by this time of old "Heavy-top," and were ready now to follow his lead, to march onwards to the wood. That was to be the ground of action and of contest, whence the greatest hero, he, in other words, who should carry the greatest amount of misery into scenes of happiness, was to return, in lieu of the harmless king *pro tempore*, the acknowledged monarch of the day. The march of the sylvan marauders is one we hardly care to follow, albeit through as pleasant a mile of lane, and field, and coppice as ever the sun got up to touch with brightness, or as ever nesting boys got up to clothe with mourning.

It were no pleasant noting to mark how their dark shadows fell murderously on the fresh green grass — how the dew-drops were polluted under their feet, "swift to shed blood,"—how, with the morning hymn of nature rose jarringly the pitiless,

exultant shout, on a glimpse, through the almost leafless branches, of some pains-wrought nursery, doomed (for pleasure) to destruction.

It had been settled that the marauding army was not to break its ranks till arrival at a spot in the wood, which was to be a central station. Through force of attractions by the way, more powerful than rule or ruler, this order was hardly kept with military strictness. Without, however, any wide divergence from its path, or falling-off of numbers, the party reached its sylvan halting-place. This was an area around the trunk of that notable elm tree, not of the village, but the wood—the solitary forbidding elm which, as contrasted with the social, hospitable "Heavy-top," has been already sketched.

It was introduced at the beginning to our readers' notice under the name of "Dry-bones," but, on the day of the grand birds-nesting, it had yet to acquire that more popular than pleasing appellation; neither was it at that period quite such an awful, repulsive, spectral individual of a tree as it has since become. Its trunk displayed then no outward sign of hollowness, at least to an observer on the ground, and though its head was thin and straggling, its verdure looked, in Summer, tolerably healthy. There was

then, indeed, nothing very remarkable about this forest patriarch, except its enormous girth and the excessive length of a single arm which, stretched heavenwards, seemed to bid defiance to the lightning and the blast, invoking their terrors all the while. It had not then, however, warned off from its vicinity either the wood flowers, or the bees, butterflies, and children which wood-flowers always draw around them. So the great elm of the wood was *then*, next to the great elm of the village, a general favourite, and a favourite place of rendezvous, as it was on that day—a day of jubilee, but not for the poor little building and nursing birds.

Well, our party is arrived. The puppet king is deposited together with his throne under the hardly shady shadow of the tree. Here he is to be left with a suitable body-guard—with the girls too tender, and the boys too little for the sport in hand—while the bold nesters hence dispersing are to return hither each with his spoil. Here the trophies are to be displayed, and he who can exhibit the largest number is to be declared king, and invested with the regalia stripped from the block that bears it.

The destroyers go crashing through the underwood like young tigers in a jungle, or glide, noiseless

as serpents, along its narrow paths. Woe to the tender parents now, in the early dearth of insect provender, seeking far and wide for the dainty morsels which so many of their little ones are not to taste again! And woe to the tender nestlings, now fed, and warm, and happy, soon to be famished, cold, dying, or dead!

Now the nesters are departed we can look with pleasure at the group they have left behind—a residue from which the stoniest materials have been sifted. King Harry knows that they are gone, nor does he seem to lament the diminution of his court. Relieved from the dark authoritative eye of his tyrant vizier, he pushes back that irksome crown, and looks smilingly about him. A pretty little girl is sitting at his feet weaving a primrose chain, another added to the dozen she has made already and hung round the neck of the puppet potentate, over his bird's-egg collar. And then, a little way off is a great girl, with plenty to be sure, both big and little, to assist her, unpacking from a basket and spreading out upon the mossy turf a motley array of heterogeneous eatables—bread and cheese, and a pot of treacle, and a can of beer, and a bottle of milk, and another of cowslip wine—and (gem of the collation)

the Dorcas cake, from which latter, as well as from the bread and cheese, some mighty segments had been cut already to fortify the nesters on their foray. At this April end of March there are not wanting brimstone butterflies, and tortoiseshells, and early whites, flitting here and there over the nearly leafless copsewood. Neither are there wanting little boys and girls to chase them, but with never a chance to catch them, which makes it pleasant sport. And other of the happy little children are busy on their hands and knees, rooting, like little pigs, for earth-nuts, or pulling up the new Spring "lords and ladies," or plucking primroses and violets, and wood anemones, and the golden celandine, and chatting and laughing, and singing as gaily and as innocently as if they belonged not to a birds'-nesting race. And the little birds, meanwhile, are singing and flitting round them as fearless and as free as if boys, and butcher-birds, and hawks had no existence.

So passed the hours of the pleasant mid-day, but as the sun declined the hilarity of the childish party sank with it. The great girls got cold, and dull, and tired; the little ones sleepy, or fractious and unmanageable, while the eldest child of the company, the poor King Harry, grew restless, and looked

anxiously about, as if looking for somebody who was not there. It might be for his stern grandee, his cuckoo brother, or more likely for his kind old grannie. She, for her part, was already on the look-out for him, there where she was standing on the rooty platform of old "Heavy-top," her spectacles raised, her work in one hand, the other lifted to shade her eyes from the low sunbeams, or to wipe them from the moisture that would now and then impede her sight. It was not the sunbeams that were causing those salt drops to gather, but it was the thought of the poor dead linnet (whatever *could* have come to it?) which she had put carefully away that Harry might not see it when he came home. At length shouts are heard approaching from various quarters of the wood, and dashing through bush and bramble, "Hip, hip, hurrah!" returns the first nester. He throws five empty nests upon the ground—two he keeps in hand—one, a hedge-sparrow's, full of bright blue eggs; the other, a thrush's, full of gaping, shivering, unfledged little ones. The cradle lined so carefully with clay as well as feathers, has been lined in vain for them. The girls who gather round are all pity, it is true, for the motherless brood, and some try their best

(but oh! how vainly) to supply their mother's place.

One by one the boys now come dropping in, each with his quota of the day's spoil. What specimens had they collected of patient toil and loving skill, each after its kind so cunningly, so carefully, so fitly, so elegantly wrought. But what to the spoilers their beauty, their ingenuity, their adaptation, what anything but their number; and, in point of number, the nester who had returned first carried it hollow over his companions. The hero of the day (dark Japhet) was, however, absent still, and the competitors had yet to wait another hour looking for, and dreading his return. Some of them began prowling again in the adjacent coppice, in hopes of adding to their acquisitions before he came. At length, as the sun was nearly setting, he made his appearance. He came in with no uproarious shout, but there was a quiet sort of triumph in his dark eye, and a confident compression of his thin lips. He looked quite a Buonapartean hero. He had never cared to bring either birds or eggs—all, quick or quickening, had been dashed reckless on the ground. He wanted only nests—nests sufficient to purchase him a straw crown for an hour's wear—and he had

got them, so at least he felt perfectly assured. Taking them one by one from his pockets, he laid them in a row upon the turf. They numbered eight—and he looked round defyingly, as though to say, "There now! Who can beat me?" Not a boy there, could, and not one attempted rivalry, but stood silent and crestfallen about him.

"But Willie has got seven—that I know—if not more," cried a little girl, his sister, who was trying to warm the shivering thrushes in her bosom. "Here's one"—showing her chirping brood—"and there's the other six," pointing to them as they lay heaped together at her feet. "Willie brought them in first, and gave them to me to keep while he went into the woods again."

"Seven isn't eight though—besides, there's not six upon the ground—it's a lie!" cried Japhet, angrily—but his words and looks were hardly heeded, the attention of all being at that moment drawn off to Willie himself. He was standing beside an old oak-tree, not far off, one arm thrust into a hole in its trunk, while he beckoned his companions with the other. He was presently surrounded by the whole group, with the exception of poor King Harry, who attempting to follow had been tripped up by his

petticoat robes, and the king-maker, who, never moving to raise him from the ground, stood sullenly aloof. Those of the children that got nearest to the old oak could hear very plainly a noise—a sort of hissing and puffing, which proceeded from the hole into which the nester's arm was plunged. "It's a snake! it's a snake!" cried at once half a dozen of the listening party, and the girls, every one of them, ran shrieking away, except Willie's sister, who laid hold of his jacket to pull him from the tree. But Willie was no such tyro in his profession as to be frightened by a sound like that. He only thrust his arm deeper into the cavity, and presently drew from out it—not a speckled snake, nor a silvery adder—but a curious longish bag, neatly woven with hair and moss, and beautifully embroidered with many-coloured lichens. Its only opening was a small hole on one side, and from thence proceeded still, as the boy triumphantly displayed it, a reiterated sound—hiss! hiss! puff! puff! came louder and louder—a demonstration clearly of anger and alarm from the disturbed occupant of the suspended hammock. Rage and stratagem were doing their utmost to protect the weak from the power of the strong, but they could no more. Terror overpowered both, and,

by terror driven, out darts from the hole a long-tailed titmouse, leaving behind, not, happily, a helpless brood, but a dozen or more of incipient nestlings hidden in the egg-shell, and buried in a bed of softest feathers. "This makes eight, at all events!" cried Willie, dashing forward to unite his new acquisition to the heap of nests, together with the thrush's in his sister's keeping. "That's as many as Japhet's," said many of the children, but in an under tone, rejoicing in their hearts that the tyrant of their sports was likely to come short of his anticipated triumph. The nests were re-counted—eight exactly taken by each—Japhet and Willie.

Numbers, as well as facts, are stubborn things, and the hero bit his lips. "But it's not fair," said he; "mine were got first, and I'm the winner." Not a voice was raised, though, in support of his pretensions. Willie was liked as much as Japhet was feared. "Well," growled the disappointed claimant, "the day's not near over (the sinking sun belied his assertion), there's plenty of light to find another." So saying, he cast his hawk's glance round and about, but to no purpose, till, looking upwards, perhaps, despairingly, his eye rested on the very highest of all the objects then discernible beneath the sky—the

top, namely, of that long uplifted arm of the great elm-pollard. Not another eye, perhaps, save his own would have been able, in the fading light, to detect anything at the end of the branch but a tangled mass of branchlets; but he had more than the sight of a boy—the sight, as we have said, of a hawk for a bird, of a cuckoo for a nest—and a nest he accordingly perceived, seated amidst the forkings at the bough's extremity. Another half-minute saw him hanging, like a squirrel or a cat, betwixt that coveted object and the ground, with several score of eager eyes upturned to watch his progress. He was half-way up the aspiring arm, which was bare of branchlets nearly to its summit, when a large bird (one of the stragglers, doubtless, of the morning's rout) flew past, flapping her wings nearly in his face. The startled climber slackened for a moment the grip of hands and feet, and slid to the bottom of the giant branch where it sprung from the knobby head of the pollard trunk. Here he found a stand; but, glancing downwards at his feet, he perceived what the gazers from below could not, that he was standing on the edge of an abyss—a dark opening into the body of the tree. The boy started, turned, and took a renewed grasp of the branch above him, made an-

other effort, but, as it seemed, a very feeble one, to reascend, then muttering, "It's too dark now," let himself drop down the rugged trunk upon the ground.

So the crown of straw was yet in abeyance. It was to be awarded to him of the two foremost competitors who should make prize *first* of a ninth bird's-nest on the morrow.

The last tinge of red had by this time faded from the western sky. The little army of nesters and its great army of followers got under march for home. King Harry—by the chances of the day, king to the end of it—was reseated, resecured, upon his wooden throne, and rehoisted on the shoulders of his bearers, the king-maker walking moodily by his side.

Altogether, the nesting party, in its weary, dissatisfied return (how contrasted with its joyous, eager setting forth!) was not without its moral to pic-nickers and plunderers, big as well as little.

Just as the children arrived at the outskirts of the wood, whom should they meet coming to look after them but Dorcas Parsons, in a prodigious fuss, and meaning to be in a prodigious passion at having to look after them at all. And yet, when it came to the point, she hardly knew how to be angry, or whom with. It was clear she had only a right to scold her own

two boys; but, as to scolding dumb, "daft Harry," what was the justice or the use of that, or even of looking cross at him? a thing she could seldom find in her heart to do—certainly not now, and when she was thinking of his poor linnet, lying dead at home. Then as for Japhet, there was never a bit of good in scolding him—besides, it was his birthday—besides, with all his faults, "he was kind to Harry"—*that* she did believe; and now, as she saw him walking so close by his side, and heard that it was he who had dressed him up so finely, all, as she was persuaded, to give him pleasure, she felt that, instead of scolding, she could kiss him. She had not, it is true, perceived then, for it was too dark, the unlawful appropriation of her blue gown, or how it had got rent and mangled through its elevation into a royal robe. We cannot say how the good woman demeaned herself under this painful discovery when revealed to her by the light of her dip candle. We only know that she set before the boys a glorious supper, to which they did but sorry justice, and gave to each of them a hearty kiss, when they were both in bed in the little back chamber behind her own. Into this dormitory we shall now take leave to enter, but not so early by some several hours as its youthful occupants. Relieved from the

burthen of royalty, King Harry is fast asleep. The moon is shining through the casement on his face, and, fair and placid, it is a face almost as childlike now as on that night eleven years ago, which had brought him, on the wings of the storm, his present bed-fellow, the cuckoo brother of his then so peaceful nest. Japhet is awake. He is sitting up in bed, leaning on his elbow, and carefully scanning Harry's countenance. Seeming satisfied at the result of his scrutiny, he gets up softly, dresses himself, all but to his shoes, with equally quiet caution, creeps round to Harry's side of the bed, his steps noiseless but for the creaking of the old uneven floor, looks again at the sleeper sleeping on, stoops, touches with his lips the slumberer's forehead, and leaves upon it (is it possible?) a drop that had hung sparkling in the moonlight on his own dark eyelash. By some rod of mysterious influence the rock is smitten. Japhet now approaches the door betwixt the two chambers, which is not quite closed—listens. All is silent but Dorcas Parsons' clock—the clock whose white face is looking down upon hers from the wall opposite her bed.

It is now striking twelve. The boy waits till the last reverberation of the last stroke has died away, then, all being silent as before, enters the adjoining

chamber. Here he lingers for a moment, whether to look at the good Dorcas in her nightcap we cannot say, then creeps more carefully than ever down the stairs which lead direct into the little back room below. He hurries through it, taking only one guilty glance at the nail from which the cage of the dead linnet has been taken. As little does he loiter in the front apartment—only long enough to draw back as softly as softly the bolt which, for protection of the shop, has been added of late years to the lockless door. Then lifting and letting fall the latch with equal caution, he stands upon the pathway under the chequered shadow of old "Heavy-top."

There he only stays to put on the shoes which he has brought down in his hand, and then away, away by the bright moon-light, down the road, over the fields, through the wood, on he runs till he finds himself under "Heavy-top's" sylvan solitary brother, the trysting-tree of the yester-morning's pastime.

How silent now and peaceful is the recent scene of childish merriment and childish rivalry in evil. April is arrived, and her advent is mild and gracious as becomes a fair and gentle portress opening the gates of Spring. Her breathings, too quiet to wave the budding branches, just suffice to stir them and to

strew the ground with (earliest of April showers) the golden scales cast from the buds in bursting.

But, though April has thus appeared with a placid smile, she is giving token already of the tears that are about to follow. Dark clouds are rising in the west, and curtain the stars as they float slowly upwards. The moon is still, however, at its brightest and its highest. It silvers the straggling head of the great elm-tree, and reveals (ah, too clearly!) the moss-wrought cradle enclosed in the branching fingers of its giant arm.

None of our readers can require, we presume, to be informed of what it was that had brought the ambitious young nester to the spot where he was now standing. He had planned to get there before anyone was stirring. He had lain awake to get there, and there he is, while Willie, his close competitor, is sleeping as quietly in his bed as the half-fledged family above in their high-hung hammock. There (his prize) it hangs in sight, within easy reach of his supple, vigorous limbs. Yet Japhet lingers at the tree's-foot, perhaps to take breath, perhaps to take heart, for he seems by his aspect to be somewhat out of both.

At length, however, he begins to ascend, the scrape

of his nailed shoes against the rugged trunk harshly audible amidst the quiet harmonies of night. His breath, and strength, and courage, if at fault for a moment, seem now entirely restored He has reached the knobby circumference of the perforated trunk, takes a grip, firm and cat-like, of the ascending branch, and now, with never a frightened bird abroad to startle him, not even a bat, a beetle, or a moth there upon the wing to come across him, he wins his way bravely upwards. The way *is* won!

With a foot raised, and resting on a fork of the lofty branch, he braces his left arm tightly round it, raises his right, and—ah! for the brooding mother! ah! for the brooded little ones!—has got them in his clutch, and drags them from their place. Even maternal watchfulness is now put off its guard. The poor feathered parent, thus suddenly caught napping, flies away before she well knows what she is about—flies she knows not whither—only away, away through the sky of night, from the deserted objects of her love and care. But what of that? Let her go, the paltry little chaffinch, no matter where! Our hero, the king of birds'-nesters, has performed his feat. No hand now can baulk him of the prize. No head but his will be encircled by the crown of straw.

"Hurrah!" he shouts triumphantly, and glides like lightning down the arm of the tree.

The curtain of cloud has by this time reached the moon, and sudden darkness shrouds the further descent of the successful climber. We can see no more of him—can only hear a rustle and a clash of boughs, a snap as of some dead and brittle branch. A few other sounds, strange, undefined, and muffled, and now all is silent—silent as when Japhet's footsteps first invaded the quiet of that moonlit scene.

* * * * *

A singular occurrence took place in the village of the elm-trees on the same first of April. Not an April-fool was there made. All the children, young and old, seemed to have forgotten the annual custom of the day, so much were their attentions occupied by the commencement of a nine days' wonder—a wonder which began within the elm cottage and spread from under the boughs of "Heavy-top" to the furthest extremity of the hamlet. The wonder was—What had become of Dorcas Parsons' Japhet? Nobody knew, and, though so many wondered, few cared except the widow herself, who certainly had no great reason to lament his absence. One only circumstance threw what was supposed to be a glimmer of light on the

mystery of the boy's disappearance. On the night or early morning of his departure, somebody, returning from a fair, had seen a female gipsy loitering under the boughs of "Heavy-top," and looking up at the cottage casements. Perhaps it was a stretch of ingenuity to connect this in nowise remarkable occurrence with the lad's fate, but to the ingenuity of gossip it was very easy.

Besides, when gossip made the incident known to Dorcas Parsons, it became to gossip perfectly clear that she (the said Dorcas) never doubted but what the coming of the woman and the going of the boy had something (somehow) to do with one another.

Be this as it might, the widow was not inconsolable for very long under the gain which (strange as it may seem) she did at first persuade herself to be something of a loss. "Poor fellow," she would sometimes say or sigh, "he was a sad little dog for mischief, getting me for everlasting into trouble; that there's no denying; but then he was a great comfort and quite a protector to poor Harry," which Harry, on his part, was quite unable to gainsay. Times there were, too, when the latter would really seem to miss his dark-eyed companion, and look inquiringly about, as if in search of him. Nevertheless, from the time

nearly of Japhet's disappearance, there commenced visible improvement in Harry's looks and demeanour. His glance grew freer, his cheek ruddier, his laugh more frequent. The poor mute sparrow seemed, in short, to have recovered room and liberty to plume, and strut, and stretch his wings, now that his cuckoo brother had taken flight from the invaded nest. . . .

Once more let us return to the wood and to the great solitary elm. Since the early April morning when we were last in this same spot, Summer has been twice here, twice has she apparelled the trees in general in full suits of variegated green, and the old pollard in such scanty drapery as has been its wear for many a season. In other words, it is a year and a quarter since Japhet disappeared.

The scene is of course more green and glowing than on the day of the grand match of nesting. In other respects one might almost, on a cursory glance, fancy that day to have returned. Here is assembled the same group nearly, of merry boys and girls, their childish faces only (like the leaves and flowers) more expanded. Here is the rude pic-nic spread upon the turf—and here is King Harry in his robes and chair of state, looking like ruler of the feast. His features are still but little changed—his royal raiment hardly

changed at all—and no wonder! for, even to the appropriated blue gown, it has been preserved carefully, just as it was new fangled by Japhet's fingers (aye, and for Japhet's sake!) by the tender-hearted Dorcas Parsons. She has now, for the first time since the nester disappeared, permitted it to be brought into the light of day. And why? Because it is (not Japhet's) but dumb Harry's day of birth. Therefore it is that Harry has been reinvested with the "purple" of cotton print—the "ermine" of white calico and rook's feathers, the crown of straw, the collar of bird's-eggs—all just as they were before, only that the sceptre, then a palm branch, because it was Spring, is now a bulrush, because it is Summer; and that the ball is made of a new turnip, because the old one is turned brown and shrivelled.

In the central object of this sylvan scene, namely, the great oak pollard, the lapse of fifteen months has wrought one noticeable change—like the hollowness of a hypocrite exposed through the imbecility of age, the hollowness of the tree has become apparent through the progress of decay. An opening has appeared at the bottom of the trunk; it is only, however, very recent, and not a creature (in the human form) has crept yet through the newly opened

portal—a portal, by the way, which looks somewhat low and narrow for anything in that shape "divine," unless it were Oberon, his queen, or members of their fairy train. To judge, however, from the condition (all barkless and discoloured) of that portion of the trunk which surrounds the orifice, it would be an easy matter to enlarge it. Whether or not, it is intended on the present occasion to make it a royal entrance for a potentate more substantial than King Oberon, to wit, King Harry. He it is who is to take first possession of that unexplored recess, and, as with the rotunda of old "Heavy-top," to keep state within, while his satellites encompass him with revolving dance and revelry.

En attendant this concluding ceremonial, right merry in the greenwood are both king and court—sceptre, ball, and diadem thrown aside upon the grass, robe girt conveniently about him, dumb Harry, with a little knot of followers, is taking his pleasure; pleased, to all appearance, as any child or bird of all the company. Yes, he looks as happy as if, like them, he could express his happiness in prattle and in song—as happy as if, like them, he could hear the chorus of mingled voices which, from ground, tree, and sky, are uniting in the hymn of praise—a hymn

in which (can we doubt it?) the speechless worshipper is taking part.

Truly, aught but praise and happiness were out of place in a season and a scene like this—here, where are met together so many things of the loveliest, the purest, the sweetest, the most joyous that earth is blessed with. Bright sunshine, pleasant shade, flowers, bees, butterflies, birds, children (gems of creation), these are all here collected and enclosed in a cabinet of living verdure. And (what is a very pleasant feature of the scene) the children and the birds are not met to-day to torment and be tormented—to destroy and be destroyed, to be amused, the one at expense of the other's misery. There is no match of birds-nesting to mar this Summer holiday; nesters are of the party, but they are few, and nests are few also, though birds in full feather are plentiful as trees in full leaf.

There is plenty to do without invading the homes of the helpless. Every creature here (not alone the little sprig of humanity) is busy, as well as happy, and busy, much after the same manner—a notable evidence amidst a thousand, that all compose, or are intended to do so, one great united family of the one Great Father. We cannot follow the children as

they scatter through the wood, but, if we were able, we should be certain to hear some singing, like the birds—see others climbing, like the squirrels—others sucking honey out of flower-cups and flagons, like the butterflies and bees—others making mounds of earth, or mimic houses of stones and sticks, building up like the great wood ants about them—and others, again, pulling down their own work, or the work of others, like—*nothing* but their own little human selves! In these, their diversions manifold, we must leave our holiday makers to themselves. Suffice it, for conclusion of our story, that we meet them once more as they reassemble round the great wood elm-tree.

Here dumb Harry is to put on again "the King" and his regalia. The latter, in its added splendour, gives sufficient evidence that the wood flowers have not all been plucked for nothing. The crown of straw is enriched by a many-coloured garland of blue veronica, and red cuckoo-flowers, and golden butter-cups; and wreaths of the same are intermingled with the rows of bird's-eggs in the collar. Even the trunk of the old, rough, frowning elm has been made to smile for the nonce in festoons of Summer flowers. The mute idol, or seeming idol, of the day is now

prepared to enter into his new pagodal palace; but his giddy followers have, till just this moment, entirely forgotten that its entrance has yet to be prepared for *him*. Two stout-armed urchins set to work vigorously with sticks and stones to enlarge into a portal what Time has only made a perforation; but, for all the fragile aspect of the surrounding trunk, it yields by no means easily to their repeated blows. As stroke follows upon stroke, the great vegetable shell returns a hollow sound, repeated in hollow echoes. There is something almost sepulchral in their tone, as if that heavy hammering were to nail down some sylvan giant in his coffin, or to exhume him from the same. A sudden gloom has come over the scene, just now so glowing, for the sun has sunk below the tops of the surrounding trees, and left the area round the elm in shadow. Only one gleam of yellow light finds entrance; and, as it glances on the furrowed trunk of the aged, half-dead pollard, and the flowery garland that entwines it, they remind us of an aged, shrivelled corpse, made hideous by a funeral wreath.

Stroke upon stroke the boys continue to batter on. A rattle from within, as of falling fragments, responds occasionally to their blows; but the portal, though enlarged, is still low and narrow. Well, low and

narrow it must remain, for the arms of the assailants ache, and their patience, as well as the patience of the lookers-on, is tired out. Besides, it is growing late. It is time nearly to wind up the revels, and the king of them must be satisfied, like kings before him, to stoop for assumption of his seat of dignity. He is nothing loth; and, ball and sceptre thrown aside upon the grass, he creeps, robed and crowned, into the cavity of the tree. When seated in fashion of an Indian potentate, his entire figure just illumined by that sinking ray of sunlight is clearly exhibited against the void behind, and the figure does well enough for a centrepiece to the living circle which begins to form. Its links of hand within hand are soon complete, and mingled voices, shrill and loud enough to waken the echoes of the wood and the birds already roosting in its deep recesses, begin a gleeful chorus. "Round and round the elm-tree" shout the singers, and round and round wheel the dancers, slow at first, then fast and faster, till in the rapid whirl the central tree and seated figure seem whirling too, then lose all form and feature.

Round and round still sing they—round and round still go they; but now, as tired voices and tired feet begin to fail, slow and slower goes the circle, till the

rugged trunk and straw-crowned head are visible again before the giddy gazers. But hark! What rises so shrilly above the lowering song? The scream of a frightened girl. And wherefore does the song cease, while shriek upon shriek of childish voices follow in its room? What means it? and why does the circle break and fall to pieces, its disjointed links all falling back, backwards to the very limit of the copse-bound area, the elm only and its single occupant left standing in the midst?

Now, whatever has the elm-tree done to cause this panic? or what its royal occupant, to distance thus abruptly his surrounding satellites? Only one of them (the frightened girl) has seen, and few enough of them can tell. As for poor King Harry, he knows as little as any one about the electric shock, of which, nevertheless, he has been conductor. Now he is creeping quietly from out of his cavernous recess, only with more embarrassment than on his entrance, because he is now encumbered with two additional insignia of his mock majesty, the sceptre and the ball. But how? Our eyesight surely, or the fading light, deceives us, for he left them both upon the grass, and there they are lying still—the turnip ball and bulrush sceptre. Something, however, he has

got hold of to replace them—some fragments he must have picked up amongst the rotting *débris* of the elm's interior. Now—now, as he advances, holding up so proudly his novel acquisitions, one in either hand, we can distinguish plainly what all see now—what the frightened girl saw first—the new ball and new sceptre with which the elm has furnished him. The ball is a human skull of small dimensions; the sceptre, a corresponding arm-bone, with hand attached, and the fleshless fingers are clutched still around a bird's-nest—the lichen-covered nest of a chaffinch—neat, firm, perfect as on that early dawn of April, when it became the prize of the ambitious nester!

VI.

VOICES IN THE AIR CONCERNING THE WORLD'S SHOW.

"Tout parle dans l'univers ;
Il n'est rien qui n'ait son langue."

La Fontaine.

The Great Exhibition had been open for weeks—months. All the novelties of the world, assembled in an area of eighteen acres, were beginning to get old, and the world was beginning to complain (what a grumbling world it is !) that there was nothing new left to look at betwixt the equator and the poles. Everybody, in short, everybody, that is, in the shape of man, woman, and child (saving the penniless who

could not pay for peeping), had looked into the glass show-box, looked at, or overlooked, everything therein, and in every tongue there had been said about it everything that man, woman, and child could possibly say.

As human invention seemed exhausted in the works under the crystal, so human speech seemed fairly spent in the words that had been spoke concerning them. Yet still the talk was of nothing else; and though one could hardly (with *reason*) grow tired of looking at the world's performances, one began to get weary (*with* reason, or *without*) of hearing the world's incessant chatter about its own doings. That began to sound vain-glorious, and as if the world had forgotten that there were other doings in the universe besides its own. Visitors, not merely from foreign countries, but from foreign worlds, seemed wanting to remind the earth of this seemingly forgotten fact. One could hardly help wishing for a few guests from some other planet—from the glowing regions of Mercury or the sun-remote climes of Saturn, to reprove the impertinent egotism of the earth, assembled as one man, and also to amuse us with a few observations, quite original, on man's collected performances.

Such visitors are not at all unlikely to be present at exhibitions of futurity, for who can reasonably doubt but that improved intercourse betwixt all the nations of the world is leading the way to *commenced* intercourse betwixt all the planets of the solar system? Just yet, however, it is early to expect anything of the sort, and this was suggestive of the thought whether there might not be upon the earth itself, or about and above it, certain bodies, to say nothing of spirits, whose voices, if they were but heard, might prove a tolerable check to the *in*tolerable exclusiveness of men of earth, serving to remind them that there is some amount of skill and industry, even in their own world, besides their own; also an exhibition, always on view, of industrial products stamped with the perfection towards which theirs are only creeping, and without whose assistance their own vaunted show would have been shorn of half its splendour.

"What!" exclaimed (so it seemed, in answer to our musing) the voice of the nations united as one man—a swollen, puffed-up, compound individual, a man made up of all men—"what, pray, and who but *we* have had anything to do with this glorious, magnificent, incomparable thing of things? Who but we, its originators, artificers, exhibitors, spectators—who?"

Thus arrogantly queried (so it seemed in the hearing of our fancy) this magniloquent representative of all the nations of the earth, and he was answered to the following purport by voices in the air.

VOICES OF THE BIRDS.

It was early morning—a morning in August, '51. The sun was rising on the Crystal Palace, but neither the world in London, nor the London world, nor the London fog, had risen with the sun. All, therefore, round and about it looked tolerably correspondent in clearness and purity with the glittering edifice, its sashes streaming with dew; while drops of the same (shed as if for very pity) were sparkling on the blades of grass, few and foot-worn, surviving yet from the trample of the world.

Not an animate thing was visible except the wakeful birds, who were assembled in extraordinary numbers and variety on the tops of the venerable elms and plane-trees of the park—solid standards of ages surrounding the glass-blown structure of a day!

A Babel of biped tongues was proceeding from the tree-top towers, which seemed, for the nonce, appropriated entirely as galleries for debate—not one left as a gallery for music. Foremost and loudest amidst

the din of chatter came the voices of a company of rooks, who, with all the rest of the assembly, were discussing (as was evident even by the turn of their heads and the twist of their necks) the intent and purpose of the monster building, whose glassy roof of ridges lay like an undulating sea beneath them. The building was clearly a prodigious eyesore in their sight—an object of their excessive indignation. "There!" exclaimed a sable orator amongst the excited group, "behold there a novel, an unprecedented, an unheard-of encroachment by our enemy, man, on our prescriptive and long admitted rights! Those tree tops (and here the speaker inclined his glossy poll towards the arched roof of the transept), that group of elms free to us from generation to generation—for meeting, for warring, for loving, for building, for rearing—now wrested, every twig of them, from the grasp of our claws, covered in by—what shall we call it?—a canopy of ice, or some mysterious substance which deprives us entirely of our power—our privilege of access! That spot of turf, whereon, for summers without number, we and our forefathers have been accustomed to feed—to pick up on mornings such as these the luscious dew-worms—to pull out the chafer grubs—morsels of melting fatness!

That, our favourite piece of pasture, enclosed also in this inexplicable manner from the tread of our accustomed feet! What, friends, shall we say to a proceeding such as this? a demonstration of such glaring hostility to the rights and liberties of rooks!"

A show of great white beaks, and a double show of great black wings, gaping and cawing, and shaking and flapping in uproarious anger and applause, gave answer to the orator's harangue. "Yes, my fellow-sufferers," he continued in a voice of raven hoarseness, and partaking of the raven croak, "yes, we see before us, under our very noses, an audacious proof of man's encroaching spirit; but *we see not all!*

"These very trees we sit on, and this trodden turf beneath us, may be appropriated in like manner; and what, let me ask you, is the mysterious purpose of that extraordinary erection? A something, depend upon it, over and above the enclosure of our trees and turf! A *something* yet more fatal to the liberties, perhaps lives, of rookdom!

"Let us rise, then, to a bird, and defeat the machinations of these vile conspirators! Let them shoot us down, for sport, by scores—let them cut us up, for pies, by dozens — let them rob us of our eggs by hundreds, and pass them off for plover's—let them

narrow, with bricks and mortar, the boundaries of our fresh green fields and rich brown fallows—nay, let them fell our trees with axes. To all these injuries we must fain submit, as our ancestors have done before us; but in this way to rob us of our ground—in this way to defraud us of our tree-tops! Under a cover like *this* to plot our ruin is an aggression so new, so mysterious, so alarming, that we have not the spirit of a flock of doves if we endure it!"

Most tremendous was the sensation that ran now through the feathered assembly—most vociferous the cawing, most furious the flapping.

It seemed as though the black phalanx was about to light down bodily—plunge through the moveless surface of the crystal sea, and whelm the treasures of the mechanic deep in a vortex of fragments, feathers, consternation, and confusion. Demonstration and doing—threat and execution—are, however, very different matters; and while these big, burly birds were still only cawing, and flapping, and looking down destruction at the brittle expanse beneath them, several "birdies small" had time to put in their small voices to more pacific purport—how soon heard or heeded we are not competent to say.

A brooding chaffinch declared from behind a screen

of elm trees, that she believed the monster building of their monster enemies to be nothing, after all, but a new sort of nest. What else were all their houses, and "for what (twittered she) but for the protection of their tender young ones should any creature of earth or air take the trouble of construction?"

A nightingale from the groves of Kensington (one who had sat up later than usual in the morning on purpose to join the feathered conclave) gave her harmonious support to the same simple, natural opinion:—"It is assuredly," she warbled, "a nest—one, in my opinion, made up of many, after the manner of those emmet nurseries, a thousand times bigger than their builders, with which I am particularly well acquainted. These often take in the little bushes, as this (to the just displeasure of Messieurs Rook) includes those stately trees. Yes," concluded the nightingale, as she looked on the glittering roof of the palace, holding meanwhile a claw before her eyes to shade them from the glare and unaccustomed sunshine—"Yes, that is undoubtedly a monster man's nest."

"Unless it is a monster bird-trap—a trap to catch us all in?" cried a starling, who had narrowly escaped a machine of that description.

"Or a monster cage—a cage to keep us in?" softly suggested a linnet, who (infected, perhaps, by foreign communication) had just taken French leave of his own.

Here a new speaker hopped confidently forward, and began volubly to address the assembly, which, inclusive even of the clamorous rooks, was struck into silence by his imposing—in other words—self-confident, self-important, strutting air. This individual was a domesticated magpie, who, with minor pilferings in the haunts of men, had stolen a large parcel of human pretension, with a tiny scrap of that much scarcer commodity, human knowledge. With these he had picked up something (how could he help it?) on the subject of the world's engrossing topic; hence was able to throw a glimmer on the groping suggestions of his simpler minded fellow birds.

"I can tell you," said he, pertly, with a shrug of his feathers and a twist of his tail, "that you—none of you—know anything whatever about what you are talking of. *I* do. I think I should!—living in society where nothing else is talked about morning, noon, and night! That great upstart building that you, Messieurs Rook, look on justly as a great encroachment, and the devil knows what besides—that you,

Mother Chaffinch, take for a great nest—you, Sir Starling, for a great trap—and you, Master Linnet, for a great cage—is what they call a great Crystal Palace, built for what they term a Great Exhibition."

"A great what?" repeated a thousand echoed and re-echoed notes.

A Great *Exhibition*. Well might the term be greatly puzzling to birds of every feather, involving as it does an idea utterly beyond the pale of bird comprehension in an unsophisticated state. The owl of Minerva, unless at once enlightened and corrupted by the wisdom of his mistress (a jealous exhibitor against the hapless Arachne) would have been as much in the dark about the meaning of that word as the owl of Kensington, who sat on the present occasion winking and blinking its great eyes under the morning sun and over the crystal sea.

By dint, however, of a prodigious deal of chatter, the tame magpie (that roguish, humanized fellow!) contrived to instil into his feathered audience a few notions almost as correct as his own relative to the meaning of a Great Exhibition.

The wonderment of the birds was, nevertheless, still vast—vast as the building below them—when they came to understand something of the purpose it

was built for. Most strange did it appear to them that those great, multitudinous creatures now beginning to gather round their edifice (and not looking from the tree-tops so very great, after all), should have come flocking from north, south, east, and west, only just to exhibit to each other the fine things that they or their fellows had been making. "Just," said the brooding chaffinch, "as if instead of working at this nest here (oh, with how much pleasure!) for the sake of nothing but my darling nestlings, I had made it only to show to Neighbour Nightingale that I could weave a fabric a great deal neater and prettier than hers!"

"Or as if," chimed in the nightingale, who did not, however, look best pleased at her friend's observation—"as if we were, say one in all our families, to bring together each a specimen of our different works only just to compare notes about them! And what would follow? Nothing, depend upon it, but jarring discords, because some impertinent arbiter—a cuckoo, perhaps, who knows as much of building as of singing—might happen to pronounce one better, forsooth! or handsomer than another! What silly creatures must those men be to act after such an absurd, ridiculous manner!"

"Why," said the magpie, with a knowing nod and a look of patronising pity, over his puffed-out feathers, on the growing assemblage below—"why, it does seem silly; but then, poor things! there's this difference, let us remember, between *us* and *them*. *Our* works are always perfection—couldn't be done better; *theirs*, on the contrary, are very lame performances; and with all their vanity (of which, by the way, they've a most disgusting share!) they're not without some little notion that bunglers they are. Therefore, as I understand, they're showing each other their trumpery attempts, for the sake of what they call 'mutual improvement;' though I'm rather of opinion, with my friend the barn-door cock, that it's much more for the sake of mutual rivalry."

The listening birds, who, except the escaped linnet, had never, like the one that was speaking, been in the intimate society of men, again looked sorely puzzled; but the magpie chattered on. "I don't," said he, "after all, so entirely condemn the idea of exhibition. There's something rather pleasant in having one's performances admired—not by *all the world* (that's vainglorious), but by a few of one's intimate friends. True, improvement, with us, is out of the question; so, of course, is rivalry. But if we

ever *did* think it worth our while to get up a little native exhibition, just amongst ourselves, we might make it, I am certain, a vastly pretty thing. I, for example, could contribute an exceeding neat article—something, in the way of nest-making, perfectly unique. For compactness and elegance of form, for softness and warmth of interior, my fabric *might* be equalled; but it would stand alone (I say it without vanity) in the peculiar strength and ingenuity of its outward defence—my chevaux-de-frise of thorns Those men below have coarsely copied it in iron; but it defies both imitation and attack. There's nothing like it in the woods, and nothing to come near it, I'll be bound, in the 'World's Show'—another name those boasting monopolists have given to that grand affair. Only set *them* to work upon a bit of wool—a handful of feathers—a lock of hair—a bundle of moss—a heap of thorns—and see the fine thing *they'd* manage to turn out! Yes," concluded the chatterer, after a pause to recover breath, "if we *should* have a show of our own, I shall certainly produce an article with which nothing can compete!"

"I don't know that," smartly chirped a goldfinch. "I was once told, by a cousin who had been in captivity, that it is declared, even by our monster enemies

(tolerable weavers themselves), that we goldfinches are the very best that fly. Only, Mr. Magpie, look fairly at one of our fabrics—a nest of apple-lichen—so even, so compact, so strong, all interwoven with finest hairs, and lined, not as commonly, with feathers, but with thistle-down satin—a texture which we alone know how to manufacture. Only look, I say, impartially at a production such as this, and, if you do not confess it equal to your own, you must say of it, as of that, that there's nothing like it in yonder Exhibition."

"Now you speak of *resemblance*," said the brooding chaffinch, "a new idea strikes me. You say, Mistress Goldfinch, that yonder creatures pretend, themselves, to the art of weaving, and that they particularly admire your skill in the same art. Now, suppose they have got down yonder some specimens of your beautiful work, and perhaps"—(here the bright eye of the chaffinch glanced with a little excusable pride at the curious fabric under her)—"and perhaps some of mine. Often and often, when I've got over the first distress and trouble of losing a finished nest, my pretty eggs, perhaps, or my darling nestlings—often have I sat and pondered till my head sank under my wing about what could be the

reason why birds are robbed by men; but I think now perhaps they may take our works to learn by, and to—to what you call exhibit."

"Very likely," returned the goldfinch, "to exhibit as their own."

"Oh yes, as their own workmanship, nobody else's," chimed in the magpie; "I know enough of them to be sure of that!"

"It's too bad!" said the starling.

"Too bad!" repeated first one, then another, then a hundred of the assembled bipeds. "Too—too bad!"

"Much too!—much too!" echoed the cuckoo (idle baggage!) from the Kensington Grove.

The rooks resumed their cawing and flapping with redoubled fury; the very sparrows shook the dust off their wings in angry demonstration; and if ever the Paxton panes had reason to tremble at an impending shower of hail, rain, cats, dogs, they had cause now to shake in their ribs of iron at the threatening storm of birds, beaks, wings, and talons. At this moment, sweet and clear above the angry clamour, was heard the celestial song of a descending skylark. The uproar subsided with its gradual approach, and the heavenly songster, arresting his downward flight (for once) upon a lofty tree-top, directed his melodious

strain to the indignant assemblage, under whose angry agitation even leaf and branch yet quivered.

"For what, my friends," he warbled, "are you making all this silly uproar? Wherefore thus fret and fume against that upstart building and its builders? Even from this tree-top they seem not of such vast importance; and if, with me, you could rise above the clouds, you would consider them, as I do, utterly beneath your notice. What to us the inclosure of a tree or two—a paltry plot of turf—when every waving forest, every verdant plain, is ours for provision and for pleasure! Leave, then, I implore you, yonder crowd of creepers to their partial possessions—their imperfect works—their painful failures—their ambitious strivings—their jealous competitions. *These are for men!*

"Let us enjoy, as hitherto, our more wide dominion; let us labour, as hitherto, only in the spirit of usefulness and affection; and be satisfied to produce, as hitherto, works, each in their kind, all-perfect for their intended purpose—all beautiful, after the beauty of patterns, the gift to us of Heaven. *These are for birds!*"

The sweet monitory voice ceased, and the clamour it had hushed was not again renewed. The rooks

flew silently away to uninvaded pastures, and out of the sight (half seen) of their incarcerated trees. The humanized magpie, in default of flown-off listeners, went to chatter of man's proceedings in other feathered ears, to the corruption, perhaps, of other feathered breasts. The goldfinch speeded off to seek a mate to assist her in the weaving of a matchless nest, perhaps through the magpie's or through man's suggestion, with a view to *exhibition*. The gentle chaffinch only nestled closer on her cherished eggs, and cast her bright eye more watchfully downwards on the motley groups which, as day advanced, were seen flocking from all quarters towards the Crystal Palace.

VOICES OF THE INSECTS.

It was high noon, and the voice of bird was succeeded in the Summer air by the voice of insect.

Their hum was one of idleness, enjoyment, gossip —an echo of the hum of humanity that rose to meet it from the clustering swarms (not of workers) around, and about, and within the great hive of glass.

It was not possible but that busy bees, curious flies, prying wasps, intrusive gnats, and their hundred cousins, must have obtained considerable insight into

what had been so long going forward in every hole and corner of the world, to be thence brought forward into its broad daylight. It was to be expected, also, that these insect pryers should have looked much more knowingly than any other animals on the labours and productions of that handed vertebrate—man; inasmuch as these, whether wrought for the World's Show, or only for the World's Use, bear, many of them, a remarkable resemblance to their own. This, moreover, is a fact on which insects, having no eyelids, cannot shut their eyes, as they enter at workshop windows, hang suspended on factory beams, creep through crannies into studios, laboratories, and *ateliers*—a fact to which, in like manner, they were wide awake as visitors to the Great Exhibition, taking, as they did, free tickets for the Paxton Palace—flying through its vistas—feeling its fabrics. And it is a fact (for a fly) of inflating import. So, at least, it would appear by the following discourse, interpreted from the original hum of an insect group—one of the multitudes assembled as aforesaid on a Summer noonday of the memorable "fifty-one."

"I suppose," said a dragon-fly, as he hung suspended to a branch of eglantine, his pinions widespread, and glittering like the surface of a pool

below; "I suppose, Mistress Honey-bee, that you have taken a look at the Grand Exhibition. What do you think of it?"

"Think of it!" responded the bee, who was resting with her laden baskets in the heart of a briar-rose. "Think of it? Why, that it's nothing in the world but a grand *imposition*—a passing-off of stolen goods—materials and fabrics taken from *us* with never so much as a civil acknowledgment."

A gleam of light, but not a spark of intelligence, flashed from the two great and the three little eyes of the green dragon-fly, as he looked with stupid astonishment at the bee. With all his eyes, he was quite in the dark as to the meaning of the little labourer. How should he have been otherwise? He was not a working insect—not a constructive nor ingenious insect—not an insect of taste for anything beautiful in all the world, except for butterflies, and for these only to devour, after he had stripped them of all their beauty. He guessed, however, by the contemptuous sound of the bee's voice, that she did not think very highly of the affair in the Park, and, with a certain consciousness of her superior judgment, shaped his reply accordingly.

"As you say, madam, it's a poor affair—hardly

worth a glance; so I thought as I flew in a second from one end to the other. The *coup d'œil* is not amiss—a medley of all colours, like a bed of flowers, or what I confess I admire more, a flight of butterflies; but, as you were observing, it's altogether a paltry thing."

"I never said that," returned the bee, pettishly, provoked with the dragon-fly for failing to comprehend her former observation. "It might be well enough if it, were not as I tell you, a rank imposition—even the flowers—but I forget—flowers are nothing to you, except as they serve to fatten butterflies. It's no use, indeed, any more talking—idling my time here, (I've lost enough yonder at the Exhi—Imposition!) when I ought to be busy at home!"

And suiting the action to the word, our insect "Deburah"* was preparing for flight, when a large foundress wasp lighted down beside her. She felt in nowise more disposed to delay her flight on account of that always unwelcome proximity, and was just upon the wing, when her waspish neighbour (in a strain, however, of no waspish character) accosted and arrested her.

* Indian name for the working bee.

"Madam," said she, "I have heard, and entirely agree with you in opinion concerning that shameless show. I happened to drop in this morning, and the first thing I lighted on was—would you believe it?—a manufactured article of which I had believed myself and family exclusive patentees. It was a specimen of paper—mere rubbish as compared with mine—a coarse paltry imitation, but paraded there for all the world to look at as an original fabric!"

"Shameful! shameful!" exclaimed the bee, all distrust of her companion melting like wax before the warmth of a fellow feeling. "Most shameful! and now I'll tell you *my* discovery. To-day I paid a visit—the first and last—to that upstart building—a cheat of itself, looking like a great conservatory—a so much better thing than it is. Well, under this impression I took the trouble to go in, when the first thing I saw, and the first you may be sure I flew to, was a collection of many-coloured flowers. I lighted on a single dahlia, thinking of course to get a load of pollen and a lot of honey from its golden centre; but not a grain of pollen—not a particle of honey was there! The flower was a *fabrication!* And what do you think I detected it was made of? Why of nothing more or less than wax—wax—the inimi-

table substance which *we*—we bees—alone possess the art of elaborating!"

"Dear madam," returned the mother wasp, "now is it possible? And yet, after what I saw, it's nothing wonderful—only shocking! so mean! so deceitful! so unprincipled! so dishonest! so! so!—"

And here the humming gossips mingled hums together, and fanned themselves furiously with their transparent wings. "Well, madam," resumed the bee, when a little cooled by the fanning operation, "you may be sure after that I didn't stop much longer, nor examine much further; but I could see with half an eye a whole heap of other things all taken from what you and I have seen a hundred times over in the factories of our own working communities, or of individuals; only of much coarser and inferior descriptions. In short, the whole concern is an infamous imposture; a show of articles made of our materials, or after our patterns, and passed off (forsooth!) by those monsters of pretension as nobody else's but their own!"

While the excited bee and wasp had been thus comparing wrongs, a corpulent caterpillar, dropped from the beak of a passing bird, had fallen upon the briar-rose between the two gossips, where it had lain a silent listener to their discourse.

"I, too," said she, "have looked in upon that fine affair, naturally taking it, like Mistress Honey-bee, for a great greenhouse. In, I say, I crept, but was soon creeping out again, when I caught sight of some flowers and a quantity of the finest, freshest looking leaves I ever saw. After a laborious crawl, I managed to get at what I took for a major convolvulus; but when I attempted to gnaw a leaf of it, of what do you think I found it was composed?"

"Of wax!" said the bee.

"Of paper!" cried the wasp.

"No—of nothing but silk—*silk*—of which *we* alone are spinners, and woven as *we*, in our green workshops are daily weaving it, and have woven it ever since the world began."

At this new instance of fraudulent appropriation, both wasp and bee renewed their angry fannings, but the sound of these was soon overpowered by a general buzz of indignation, proceeding from air, earth, and water; it seemed an united voice uplifted by the elements themselves against the monopolist glorifying of Creation's lord.

The Babel of insect myriads spread far and wide, but it was soon silenced on the spot whence it began by the authority of an Emperor moth. This royal insect was once a royal weaver—a king of his craft.

With imperial dignity he reproved the petty jealousy of the three incensed artificers—bee, wasp, caterpillar—and the senseless clamour provoked by their complaints. Then, with pride artistic, as once, himself, king of weavers, he ended by proposing an Exhibition of the Industry of all Insects.

"It will be only," said the royal proposer, "a concentrate exhibition from that which we have always on view in the great palace of the earth, with its concave roof of sky over-arching, not a single group of trees, but all the forests in the world. It is only by thus assembling some few wonders of our skill within a narrow compass that man (creeper as he is, of contracted vision) will be enabled to do justice to our works; only thus can we compel him to confess how little of original in material, fabrication, and invention, belongs to what he calls his own."

"Yes, yes! an Insect Exhibition," cried the bee.

"An exhibition of our own!" echoed the wasp and caterpillar, and a thousand accordances expressed by "vocal wings" or nodding antennæ seconded the proposal of the Emperor moth. But there were also a thousand auditors who received it in silence—amongst them our friend the dragon-fly—and some ventured even to express dissent.

"It would be idle," hummed a drone.

"Impertinent," buzzed a fly.

"Vain-glorious," suggested a butterfly.

"It might cause irritation," intimated a flea.

"There wouldn't be room in the air for the crowds we should assemble," observed a midge.

"Nor enough leaves on the trees for their consumption," added a cockchafer.

"A pestilence might ensue," droned a burying beetle.

"An awful mortality!" struck in the death-watch.

The above dissentients were, be it noticed, all idlers. They consisted of such insects as had never in their lives produced a thing worth looking at, and were never likely so to do. The objectors, in general, were of the same description.

The Diptera were divided. A multitude of idle flies and lazy long-legs were against. The gnats (most of them ingenious boat-builders) decidedly favourable.

The Coleoptera were, to a beetle, adverse, except the wood and type cutters, also a few weevils among them who could make balls of lace-work, with others who cut envelopes out of leaves.

The Hymenoptera, including bees, wasps, ants, and

saw-flies—first-rate artificers in masonry, carpentry, wax-making, paper-making, moulding, varnishing, were of course unanimous for exhibition. The gall-flies (members of the same order) and makers of mimic fruits and flowers taking the same side.

The Trichoptera—famous for ingenious shell-work—and the Homoptera, for cutting in wood, were not likely to offer opposition.

Amongst the Lepidoptera, the moths (those in particular who had served their time as tent-makers, muff-makers, flask-makers, &c., and all as weavers) were universally for—the butterflies generally against.

The Orthoptera, finally, represented by a multitude of epicurean grasshoppers, sent up a noisy protest from the ground against the project.

It was carried, however, by a show of wings, that the Exhibition was to take place. An Executive Committee was appointed for its management; also, a Royal Commission, headed of course by the proposer of the undertaking, the Emperor moth.

Even then some slight discussion followed before the separation of the winged assembly; nor was it wholly of harmonious character.

"I suppose," queried one of the late dissentients—a chequered meat fly—"I suppose that we—that is,

you—will have to exhibit in the open air—hail, rain, or sunshine? You can never get up anything like that great safe yonder."

"Can't we?" returned both together from the eglantine our friends, the wasp and bee—"Can't we?"

"Can't we?" echoed a carpenter-ant from the portal of her excavated dwelling in an oak, and an ant-mason from the roof of her earth-domed residence below.

"We can build a palace of wax," resumed the bee.

"Of paper," observed the wasp.

"Of wood?" suggested the carpenter-ant.

"Of clay?" the mason.

"But how will it be glazed?" demanded pertly a common house-fly, one more conversant with windows than with the art of making them.

"Why," returned a silkworm, escaped from a tray of mulberry-leaves—"why, I've heard talk amongst those imitators, of their sometimes making silk of glass. Fine rubbish that must be! But it puts me upon thinking whether one might not make *glass of silk*. I shall try experiments."

"So shall I," rejoined another ingenious artificer (caterpillar of a saw-fly). "I make an article much like glass already."

"Well," resumed the house-fly, with a flippant buzz, "suppose your show-room made, I hardly know what you have to show in it. For instance, in the four grand departments (I've picked up something, you see, of what's going forward)—in the four departments, what would you exhibit? *Raw Materials*, say—what do you propose to show in these?"

"What?" exclaimed at once a variety of voices; "why, specimens of clays, sands, woods, bark, fibres, leaves, mosses, seeds, gums, pollen, raw honey; these, and a thousand other substances employed in our various manufactures."

"But where," asked the objector, "your *Machinery?*"

"We've our pumps, our pistons, our air-tubes, our telescopes—our buoys, our boats, our balloons, our machines for spinning and for weaving," returned various individuals, insect possessors of the above instruments.

"Your *Manufactures*, though?" persevered the pertinacious fly.

"No lack of them," was the reply of artisans innumerable. "We've our wrought textures, of pure silk, or curiously interwoven with other substances—our laces, our cloths, our papers, our envelopes—also

various articles by *us* alone prepared, as wax, gums, dyes—all, as it would appear (as well as our tools and weapons) appropriated without ceremony, and now, forsooth, exhibited by man."

"That's all well enough," said the oppositionist fly; "but in Section 4—*Fine Arts*—where's your pictures, enamels, gilding, gems, sculpture?"

To this the reply was not so ready. Presently, however, a butterfly (a Painted Lady), who had been gazing at her own reflection in a watery mirror, exclaimed with confidence, "Why, for pictures we have only to exhibit *ourselves*. We'll supply mosaics—our chrysalides will furnish gilding. As to enamels, you, Mr. Rose-chafer, with some of your brother beetles, might afford some very fair specimens—that is, if you do not continue to set your faces against the whole affair."

"I never approve certainly of what looks like vanity," returned he of the rose, with a glance in the butterfly's mirror at the golden reflexes of his emerald wings, "but, as the thing's agreed on, I am not the one to offer vexatious opposition."

"Nor I," said a crimson "Cardinal."

"Nor I," said a brilliant "Chrysomela."

"Nor I," said a sparkling "Cicindela;" and all

nearly of the hitherto opposing Coleoptera became warm supporters of the proposed Exhibition.

It was wonderful how many dissentients were found to alter their tone after the butterfly's happy suggestion. The fly, however, was not silenced. "We've heard nothing yet," said he, "of your show of sculpture."

A maternal moth here drew attention proudly to a group of her eggs lying on a leaf; they were richly ornamented by an embossed pattern such as might have been the work of a sculptor's chisel. Several sister insects showed varieties of the same adornment on the caskets which inclosed their treasures. Certain beetles then made a display of the ornamental cases in which they kept their wings; but the impertinent fly could only murmur that "the insects," he suspected, "like the English, wouldn't, in sculpture, come out strong!"

Only a few more feeble objections were now as feebly uttered by dark, ill-looking, indolent lurkers in holes and corners, such as could neither make anything to exhibit, nor flatter themselves that they were objects for exhibition in their own persons. Amongst these was a bloated cockroach, who, with other kitchen offal, had picked up some kitchen talk on the uni-

versal topic. "How do you propose," he drawled out, "to get over foreign contributions?"

The "Emperor moth" (the princely suggestor of the plan) himself condescended to answer the objective query. He should avail himself, he said, of the opportunity that now offered to hold parley on the subject with many distinguished foreigners already in the country. They had come over *incog.* with parties from beyond sea—contributors or visitors to the existent Exhibition. Of these insect strangers, some had taken free passage in snug little cabins in planks and masts—others had swung in hammocks of their own weaving amidst sails and cordage—while others, again, had found accommodation (bed and board) in a variety of animal and vegetable products newly imported by Exhibition voyagers. It was thus that (making man and his winged ships subservient to their purpose) they might communicate with the insect people of shores beyond reach of their own wings, and these, by the same means, would send their contributions, or be transported themselves. "I shall soon open," continued the Emperor, "a negotiation with his Majesty the African King of Termites for a gang of his celebrated building slaves to assist in the erection of an Industrial Palace. Its

proportions, relatively, will as far exceed the dimensions of yonder vaunted edifice, as its builders are (in stature merely) superior to us. Thus, my friends," concluded the royal speaker, "shall we compel those great, self-adulating animals to contribute, as servants, to our design, and oblige them, as they look abashed on the collected works of all insects, to abandon for ever their pretensions to exclusive skill."

An exultant hum, with a triumphant quivering of wings, followed on the royal address, and the multitudinous members of the aërial assembly broke up in glittering dispersion.

VOICES OF THE FLOWERS.

It was mid-day still, but, excepting the occasional hum of a solitary bee, no insect voice broke the stillness of the air, now laden with the perfumed breath of flowers.

And had the flowers—most graceful and artistic of all earth's productions—never a voice themselves concerning the Earth's Show?—a very flower-bed of art, wherein, from floral forms and floral colouring, was derived the most of all its beauty. Where the vase, where the salver, where the bell, the cup, the flagon,

the candelabra, the epergne, the mounted jewellery, the carvings and the mouldings?—where the damasked silks and stuffs, the gorgeous carpets, the tasteful hangings, without the flowers and the foliage suggestive of their forms—affording copies for their enrichment — colours (in vegetable dyes) for their adornment?

The flowers, heaven clothed, heaven canopied, heaven fed—with no earthly needs of being to excite invention or fabrication—with no semblance of an earthly passion, saving love, can express love only in their sweet communings; and love (with pure delight inseparable) was, accordingly, the burthen of their breathings concerning the World's Show. In language glowing as their colours, graceful as their forms, did they offer to each other kind congratulations.

"Behold," say they, "our fading hues reflected more faithfully, preserved more enduringly, than they have ever been before! We are rescued from ephemeral frailty by the pencil and the loom!

"Behold," say they, "our forms repeated more truly, more tastefully — adopted more extensively than, till now, the world has ever seen! We are en-

dowed with almost immortality by the mould and chisel!"

It was to such a purport (their breathings wafted on the winds) that the flowers, far and near—from exotics under a tropic sun to exotics under the crystal roof—held delighted intercourse. And for those in the neighbourhood of the World's Show—they, from the stately azaleas in the balconies of Piccadilly to the humble daisies in the Park, looked down or looked up with smiles (their sweetest and their brightest) at the grandest of all floral exhibitions, in the grandest of all the conservatories in the world.

VOICES OF THE WINDS.

It was evening. The world's sun had set, and the people of all nations, in garments of all colours, had diverged, like so many prismatic rays from the sun of art, the then central attraction of the world's inhabitants. Their tongues of diverse sounding scattered with them, the voices of the evening breezes were left predominant to fill their places, and take up the burthen of their discourse. For of what but the World's Exhibition could the wandering

winds (those world-wide travellers) be speaking or be singing?

"Where (said or sung they) but for *us* that glorious building, with all its sea-borne, wind-borne treasures—save for which itself had never been?

"Where its productions of terrestrial growth but for *us* who fanned them to maturity?

"Where its productions of human skill but for *us* who helped to give vigour to the minds—strength to the hands that devised and formed them?"

So said or sung the breezes as they passed refreshingly through the smoke and dust-laden foliage of the Park trees. *Then* they stayed their flight above the Crystal Palace, and hovered, as with brooding fondness, over the growths of strength and beauty they had helped to perfect and to bring together.

VOICES OF THE SPIRITS.

It was night. Under a flood of summer moonlight the Crystal Palace was again, as in the early morning, clear, and cool, and radiant. The early birds—the noon-day insects—the mid-day flowers—the all-day multitude—the evening breezes—had gone to their repose, and the only sounds rising from the earth

were steps of midnight watchers, or steps, or wheels, or shouts of midnight revellers. Heard above them, though not so loud, were still, however, voices in the air—voices not of earth. But even of these the discourse was again of nothing else but the Earth's Exhibition.

The combined efforts of a world's inhabitants directed, as never before, to a single and laudable end—the combined produce of a world's soil thus, as never before, brought together—the combined product of a world's skill and industry displayed, as never before, in peaceful emulation—things like these must have made a worthy theme and worthy show for aërial, even angelic spirits to discourse and look on.

Those voices of the night, coming as from the stars, fell upon the ear "most musical," and, for awhile, most rejoicingly, discussing with delight the beauties of their theme; its elevating combinations of grandeur and beauty, grace and harmony—its moral elements of brotherhood and peace. Of these only for awhile they held communion—those gentle spirits in the air—and then was silence.

* * * * *

The voices came again, but low and sorrowful their

tones; and isolated words, and broken sentences of mournful meaning, were scattered on the breeze of night.

Partiality and favour—jealous heart-burnings—self-adulation—vain rivalry—misapportioned rewards—sordid motives—poor toiling hands robbed of their meed of gain and credit—poor aching hearts like to break from neglect and disappointment—exclusive praise to man, the appropriator and learner—forgetfulness of God, the Giver and the Teacher. These were the things of which the spirits sadly whispered; and then did tears, such as angels weep, fall with the night dews on the proud dome of the Crystal Palace. Again was silence. * * * *

Then a voice, small, still—sweeter than all that had gone before, pronounced the words, "Here we only see *progression;* hereafter, hence following, will come *perfection.*" And then the angel spirits were consoled, and the drops were dried through which, as through a mournful mist, they had begun to look upon the edifice below.

In that, the largest structure ever reared by human hands, they saw, as at first, but clearer still, a mighty temple. In all of its appropriated spaces they saw

but altars—in every choice production of nature and of art they saw but offerings—returns of the richest of His gifts to Him who gave alike the material and the skill to use it. And then the voices of the spirits rose higher and higher into heavenly music, and they hymned *together* the wonders of the Crystal Palace and the glory of the King of Kings.

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